Drug & Cosmetic INDUSTRY

VOLUME 54.

January 1944

JUNE 1944

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Snowtop Precipitated Chalk "goes down to the sea" on the ships of Uncle Sam's fleet in many forms—as dentifrices, pharmaceuticals, antacid tablets and dozens of other products requiring Precipitated Chalk in their formulas.

SNOW TOP is more than just an identifying name; it is your guarantee of the highest quality Precipitated Chalk . . . . in uniformity, color, purity, cleanliness, physical character, absorptive properties and binding power.

SNOW TOP is available in various finenesses adaptable to the manufacture of any product requiring Precipitated Chalk. If you are not already acquainted with SNOW TOP, write today for a generous sample and a copy of our booklet, "Precipitated Chalk for American Industry."

Specification Ranges for Snow Top

Grade	Rattle cc	Flow cc	2-Hour cc	Final cc	Drop Density g/cc	Drop Density lbs/ft³
Super Light	30-38	40-48	70-90	55-65	.400-0.300	25.0-18.7
Light	20-30	27-40	45-70	40-55	.550-0.475	34.3-29.6
Medium	17-23	19-27	25-45	24-40	.675-0.550	42.1-34.3
Heavy	15-17	15-19	20-25	19-24	.800-0.675	49.9-42.1
Extra Heavy	11-15	11-15	15-20	15-19	.950-0.800	59.3-49.9

Snow Top Precipitated Calcium Carbonate ★ Abietic Acid ★ Nuchar Activated Carbons ★ Liquid Caustic Soda ★ Chlorine ★ ★ Lignin ★ Liqro Crude Tall Oil ★ Indusoil Distilled Tall Oil ★ Tall Oil Pitch ★ Sulphate Wood Turpentine

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Drug & Cosmetic INDUSTRY

JANUARY 1944

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THOUGH SHORTAGES ARE PLENTIFUL
WE NEVER LET HIM DOWN.

COURTESY IS CURRENCY
THAT JINGLES IN THE TILL.
ITS DIVIDENDS IN BUSINESS
ARE MORE PROFITS AND GOODWILL.

PRODUCTION CHOKED WITH BOTTLENECKS?
DELIVERIES NEED A CRUTCH?
A BUYER'S STILL A HUMAN.
WHY NOT TREAT THE GUY AS SUCH?

COURTESY IS PERFUME
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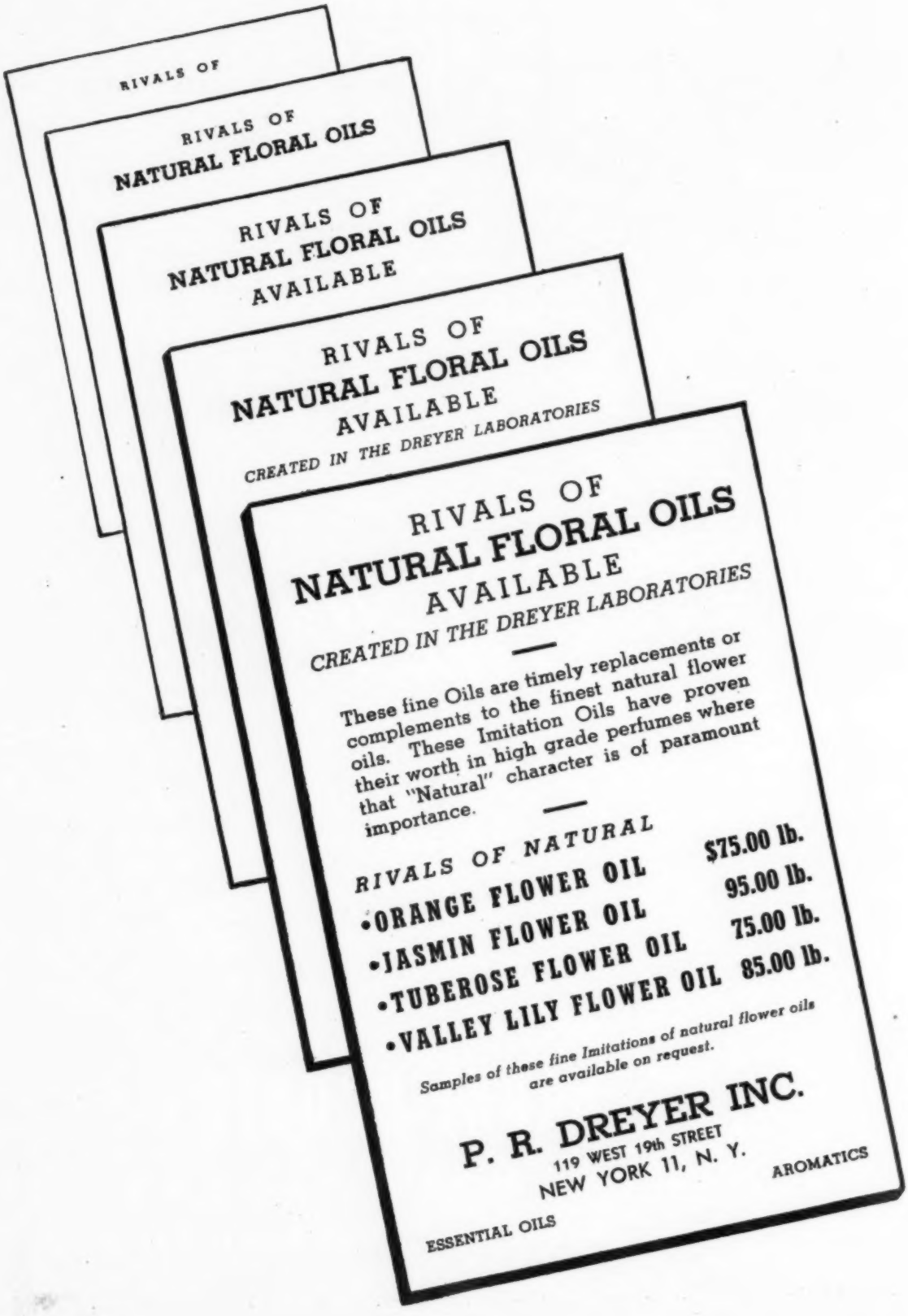
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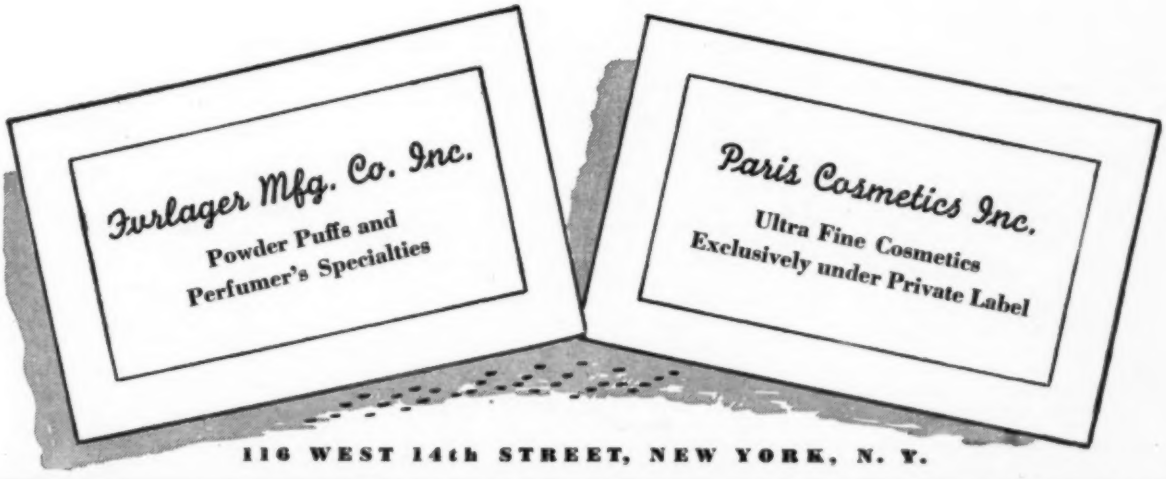

116 WEST 14th STREET, NEW YORK, N. Y.

INSIDE NEWS

JANUARY PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1944

Drug Shortage In Germany As U. S. and Canada Break Penicillin Bottleneck

TESTING THE ACTION OF PENICILLIN

In this Oxford Cup Test, penicillin in various concentrations is introduced into upright tubes where its "zone of inhibition" stops the growth of disease bacteria. As it spreads away from the tubes, and becomes more dilute, its inhibiting action gradually ceases. The size of the zone of inhibition indicates the strength of the penicillin used. (Courtesy of Chas. Pfizer & Co., Inc.)

News filtering through neutral sources hints at a growing drug shortage in the Third Reich. The reports are based on a series of new government decrees permitting pharmacists to use substitutes for drugs "in short supply."

Especially significant is the case of benzococaine, now on Germany's short list. Its original proprietary, anaesthesin, was made by I. G. Farben, and its shortage may indicate effectiveness of bombing, as well as increased demand for pain-killers.

Meanwhile, scarcity of certain pharmaceuticals is still making news here at home.

Penicillin. Production will probably be sufficient for the Armed Forces by middle of '44. A Canadian plant employing 250 men and women, will produce 500,000,000 Oxford units by April, 26,000,000,000 units yearly. About 20 U. S. chemical and pharmaceutical houses are now producing it on a scale sufficiently large to permit a forecast of 27,000,000,000 units annually by the turn of the year. Even a whiskey distiller will be in penicillin production by February. According to reports from the distiller, a new method will be employed.

Quinine. To fight shortage created by Jap conquests, trade in South American Cinchona bark has been revived after 300 years. From Columbia southward through Ecuador and Peru to Bolivia, native mule pack trains gather and dry the bark for shipment to U. S., where quinine is extracted. Ipecac is also on the list of increased imports: it is used to fight amoebic dysentery in the tropics. Menthol, another scarce South American item, is giving trouble to buyers, largely because of peculiarities of trading with Jap colonists in Brazil, who keep competitors bidding even after the "sale". Buyers then run the risk of crashing against U. S. price ceilings.

Cuban Alcohol is part of the strange interweaving of wartime shortages. Alcohol production on the island has risen from a normal 25 to 30 million gallons yearly to 70,000,000. Reason: liquor distillers import it 140 proof and blend here. Cosmetic manufacturers export perfume concentrates and blend with alcohol there.

Discovered: that Vitamin C acts like insulin, the hormone used for relief of diabetes . . . that the poison in poison ivy, called "Urushiol" is the same poisonous stuff originally extracted by Japs from lac trees and used in various lacquers, including lacquer on mah jongg sets . . . that nerve fragments, frozen and dehydrated in high vacuum can be rehydrated and used for grafts in neuro-surgery.

Planned: a bigger market for vitamins in chocolate bars . . . additional fats and oils for soap manufacture in '44 . . . a new folding can opener, no bigger than a razor blade, now going into mass production, and to be issued to every U. S. soldier instead of old-style keys attached to cans. 530

A 10-in-1 Component

Since the start of the war, the Army has believed that a dehydrated corned beef hash would be a definite asset to its ration program. After many months of research and development, the product is being delivered to the fighting fronts, specially packed to properly preserve it. It is tasty, has high nutritive value and can be eaten in first line fighting zones where there may be no cooks nor cooking equipment. The new product is the first combination of dehydrated and precooked food with meat, not including soup, that has been accepted for Army use. How it's prepared—how served and in what quantities as a ration food is yours if you'll inquire. Or if you prefer, we'll tell you about it from viewpoint of the post-war home kitchen. 531

Could You Use It?

Perfection and adoption of a new process for chilling and packing cream has been announced by an Eastern dairy, for use with cream having a butterfat content of 70 per cent or more. By this process, cream that has first been concentrated is chilled upon a revolving surface. The resultant cream is reconstituted to produce a cream equal in consistency, texture and flavor to the fresh product. It's been used commercially long enough to prove its practicability. Maybe you could use it to replace a form of cream in ice cream, cream cheese and other dairy products? 532

Something New . . . Added

A discovery is heralded in the processing of pickles and sauerkraut. It involves addition of a starter solution to the brine to increase the rate of lactic acid production to the point where yeasts and pectin-destroying bacteria cannot grow. These starters (we'll furnish you a list) are better than pure cultures, and the same improvement could not be brought about by the addition of lactic acid at the beginning of a normal pickle fermentation. 533

Rotting Control

Sweet potato storage recommendations have been revised as a result of recent studies of ventilation and moisture content

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of air in the storage houses. The new emphasis on ventilators is thus changed from humidity control to temperature control. The recommendations have followed three years of intensive research on the rotting problem with "sweets". 534

Juiciness Ratings

It is possible to determine mechanically the juiciness of meat samples and thus avoid the uncertainties of organoleptic ratings, a specially adapted hydraulic press being used in experimental work on a 25 to 35 gram sample. 535

High Acid Milk

Weak body in Cheddar cheese has been corrected by a certain addition to the milk before pasteurization which permits a greater retention of moisture in the cheese than that from normal milk. 536

"Alayam"

The time may not be far distant when people will be eating sweet potatoes in the shape of candy, breakfast cereal, peanuts, cookies, sandwich spreads and in other almost unheard of forms. This whole new line of potential products has the enthusiastic support of private manufacturers up and down the country. From the golden brown crunchy basic, tasting like caramel taffy, some 20 varieties of food have been discovered, all of them fully prepared and ready for serving when received. Primarily they are considered energy-producing foods, since they have approximately three times the fuel value of the fresh sweet potato. And we're betting you want to know more about them! 537

Pea Root Rot

A six year study of pea fields in New York State discloses that where peas have been grown in rotation over a period of 16 years that the important root rot organisms were not eliminated entirely by a three, four or five year rotation. One strain of root rot, isolated from the California red kidney bean, was found to be extremely pathogenic to peas and capable of living as a weaker parasite on various dry beans. California red kidney beans, therefore, should not be included in a rotation where peas are planted. The study revealed that profitable yields were obtained during the three, four and five year rotation of peas even though the root rot organisms were not entirely eliminated, providing growing seasons were favorable and the fields were well fertilized.

Would you like a complete report of the pea root rots strains covered, the findings on their distribution and their relation to soils? 538

A-M-C Anti-Oxidant

Fat-soluble vitamins are stabilized by an anti-oxidant containing A-M-C. 539

Technical Topics

ACTIVATED IODINE—Iodized fabrics, declared useful for surgical purposes, are described in a recent British patent. The impregnated material can be kept sterilized and dry, it is stated, and when needed, put on a wound or other laceration. It releases active iodine as soon as it is moistened by the secretion of the wound. 540

COATINGS TEST—Iron foil is now being used by one American paint manufacturer for the accelerated testing of coatings for their rust-preventing properties. The foil is glued to a glass microscope slide, the protective coating to be tested spread uniformly on top, and the slide then exposed in an accelerated testing unit. A time factor is the answer. 541

AEROBACILLUS FERMENT—Butyleneglycol production by fermentation is now being accomplished in a Canadian pilot plant. The process employs an *Aerobacillus* type of organism, and there's an important co-product of the fermentation. In addition to the use of butyleneglycol as a precursor for butadiene, investigation has revealed potential uses of the material in plastics, solvents, protective coatings, humectants, pharmaceuticals, and organic synthesis. 542

RAW SILK POWDER—A powder made from raw silk chemically treated and then ground, is said to have value in cosmetics and antiseptic dusting powders, according to a new British patent. 543

CITRONELLA—Citronella oil from which several important aromatic chemicals are made, was a monopoly of Java. Since 1941 an American has increased plantings up to 8,000 acres in this grass in a Central American country. 544

NEW ENERGY—A new application of energy is employed in a recently developed process for dehydrating food products. It is reported that the process makes possible the removal of 99 per cent of the moisture content from a compressed vegetable block. 545

BRAINS TO BURNS—A drug developed several years ago for combating the trypanosomes which cause sleeping sickness, has recently been found to have valuable germicidal properties, especially suitable for the local treatment of burns and wounds. The full chemical name of the compound is a 25-letter word that might interest readers. Two similar compounds, known by the shortened styles of pentamidine and stilbamidine, have also been found effective in counteracting the micro-organisms causing infection in burns and wounds. 546

LOW-TOXIC DRUG—A new sulphonamide drug of low toxicity, is being offered by a British pharmaceutical manufacturer. It is declared to be rapidly absorbed when given by mouth, and to attain a high concentration in the blood when given in adequate doses. May we tell you? 547

WATER-REPELLANTS—New compounds are being offered by an American manufacturer for conferring water repellency on textiles. 548

ORANGE POWDER—The manufacture of this powder by means of a modification of the high vacuum process used for drying blood plasma is a new process, now being worked out, which holds great possibilities for new food developments. 549

WATERLESS VINEGAR—Vinegar is shipped with great space saving through a process which freezes out the water. 550

FLAVOR TABLETS—Lemon tablets may soon be added to vanilla and maple tablets, for Army use in place of liquid flavor extracts. Want to know about them? 551

GRAIN-DRIVEN CARS—Canada may run its automobiles on its surplus grain after the war. Alcohol for fuel, 1-glycol, an antifreeze which can take 40° F. below zero, and butyleneglycol, which can be turned into Buna S rubber, are all products from grain for which processes have been developed. 552

FRUIT FLOUR—Fruit flour, containing 50% dried fruit and other highly palatable ingredients, is being popularized in Switzerland to save sugar, fat and wheat in pastry cooking. 553

FEATHER FLUFF—Collection of wet-picked chicken feathers, formerly wasted, is now becoming a sizable industry. A preservative (formula available) preserves the feathers in a normal fluffy state. 554

SKIN TROUBLES?—A simple washing compound has been found to possess fungicidal properties and to be so mild in its action on the skin as to reduce any tendency to dermatitis. 555

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

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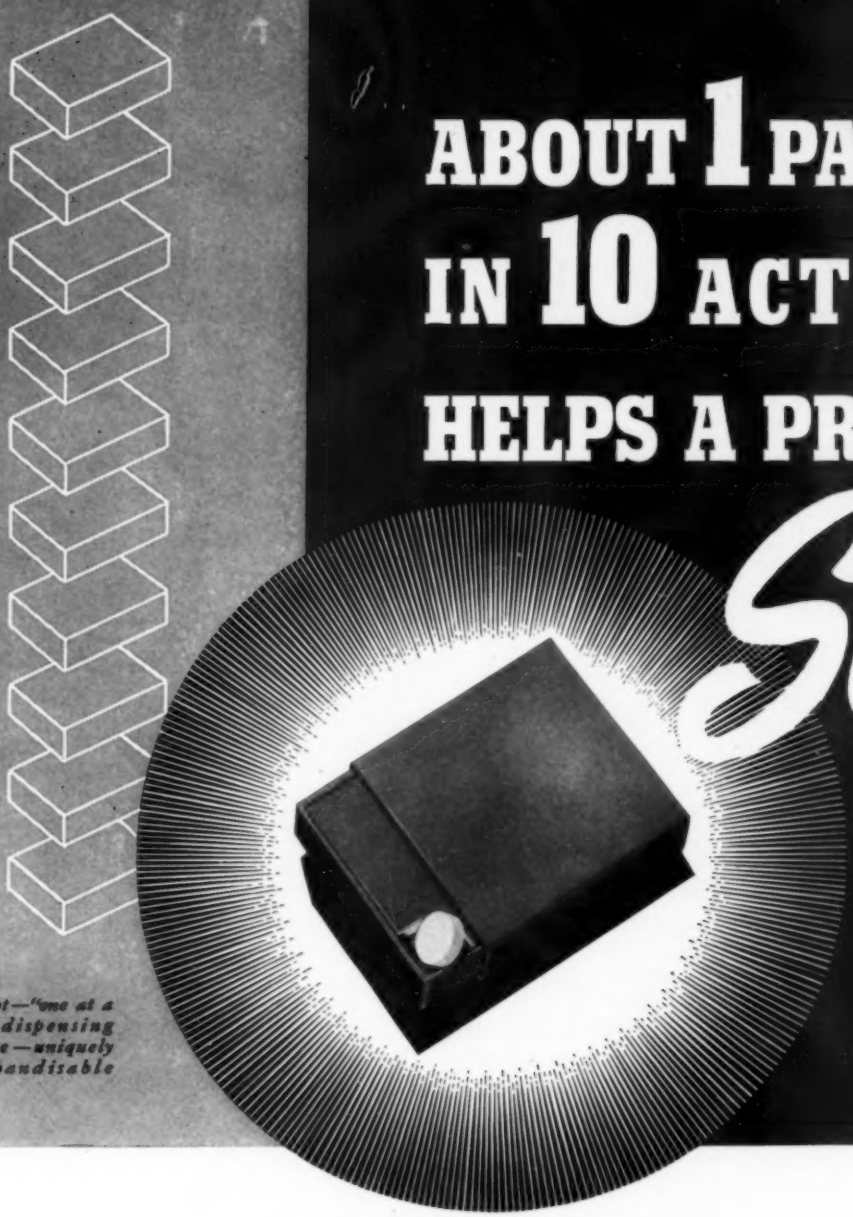

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Jimmy Stewart, who used to be one of our production clerks before he joined the Army, is now playing in the 344th Army Air Force Band at Bainbridge, Georgia!

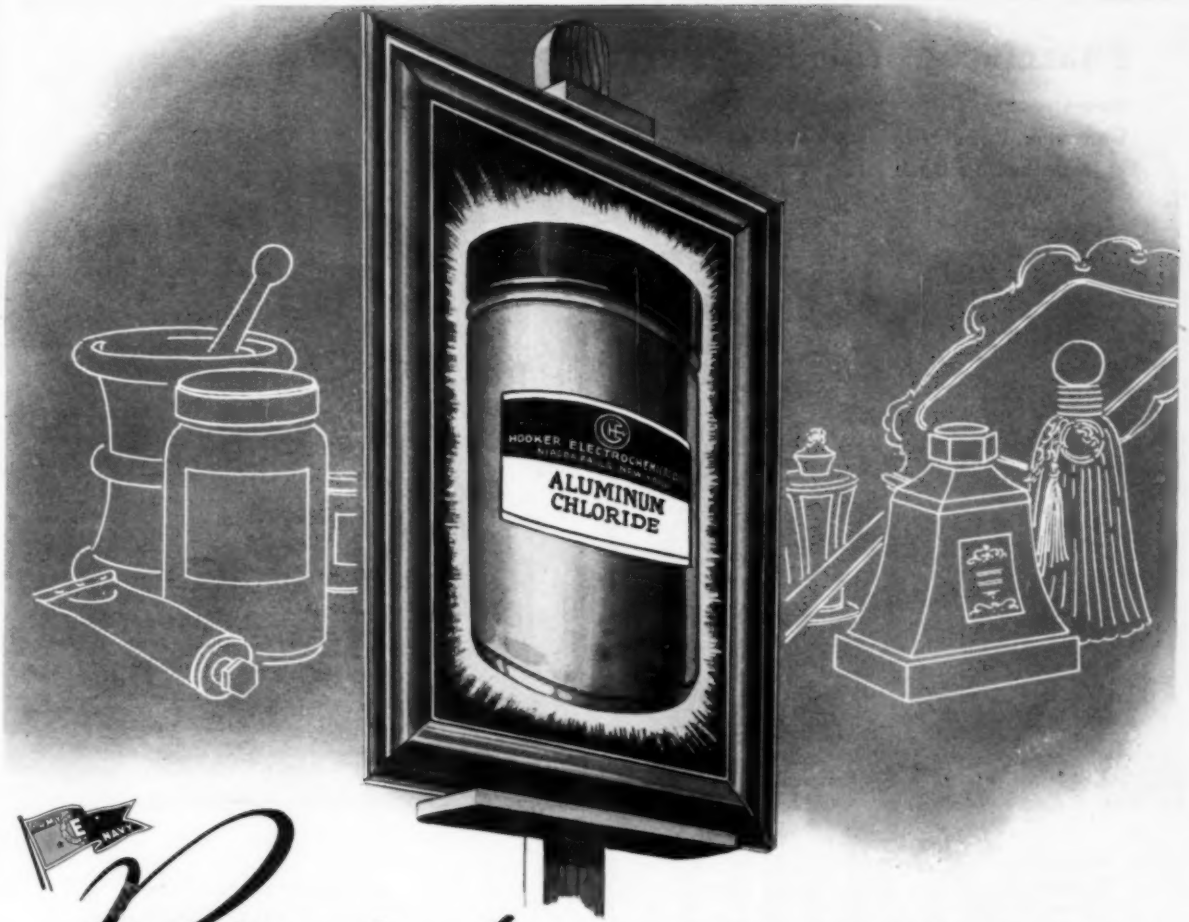
But being in an army band isn't just a question of playing for parades and dances. Army bandsmen have a lot of tough and dangerous jobs — including acting as stretcher-bearers during an attack.

We hope Jimmy and the rest of the Swindell service men will be back on the job in the not-too-distant future. There are some "sour notes" in our service that "musician" Stewart can help eliminate.

In the meantime, we're doing our level best to give our customers the best service possible under difficult circumstances.

When you think of bottles think of

Swindell



Portrait of A BUSY CATALYST

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Through the magic of sulfa drugs deaths and permanent disability from meningococcic meningitis, popularly known as spinal meningitis, can be slashed to an incredibly low level, it was learned yesterday when cases have risen approximately 1,100% in New York City in two years.

The latest story of the curative powers of sulfa drugs, particularly sulfadiazine. . .

In CALCO'S large-capacity plants, manufacture of SULFADIAZINE is under rigid quality controls from the first step (see illustration) through every process of quantity production.

Just as the recommendation by the Surgeon General's Office of Sulfadiazine for pneumococcal, streptococcal, meningococcal meningitis and other infections fostered its widespread use among the armed forces, so now its universal endorsement by leading medical and health authorities is opening up big, new demands for this famous sulfa drug through normal pharmaceutical outlets.

Happily, CALCO'S mounting production capacity now permits the offering of Sulfadiazine to ethical pharmaceutical manufacturers generally in quantities to meet the needs of this rapidly-expanding civilian market.

Do you, too, see the opportunity for increasing sales and profits in the marketing of Sulfadiazine? If so, we suggest you talk over your requirements with CALCO right away.

Ask About These Other Available CALCO Products:

Sulfapyridine U.S.P.
(and Sodium Monohydrate)
Nicotinamide U.S.P.
Nikethamide
Sulfanilamide U.S.P.
Cinchophen N.F.
Neocinchophen U.S.P.
Sulfathiazole U.S.P.
(and Sodium Monohydrate)
Mandelic Acid U.S.P.
Methylene Blue U.S.P.
(Powder—Crystals)
Calcium Mandelate U.S.P.
Glutamic Acid HCL
Calcium and Sodium Pantothenate
2-Methyl-1, 4 Naphthoquinone
Phenothiazine
(For Veterinary Use)
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ARMY E NAVY

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DODGE TAPER CORKS

METAL and molded closure materials are on the critical *list*. Wood, for wood-top corks, is practically impossible to get. But the supply of *cork* is plentiful. Dodge *taper corks* are the practical way to *stop*... and *seal*... wartime "bottlenecks."

If you are faced with the probability of serious production bottlenecks due to scarcity of closure materials, plan a change-over to Dodge taper corks *now*. Dodge corks have excellent sealing qualities, and you can get immediate delivery on most sizes of standard corks.

Write Dodge today. Send specifications as to size, type and quality of corks you require.

DODGE CORK COMPANY, INC., LANCASTER, PENNA.

Coming. *Dodge is working on YOUR closure problems... perfecting alternates for wood to be used for Milbossed top corks. In the meantime, Dodge will meet your taper cork requirements promptly.*

DODGE *Closures*

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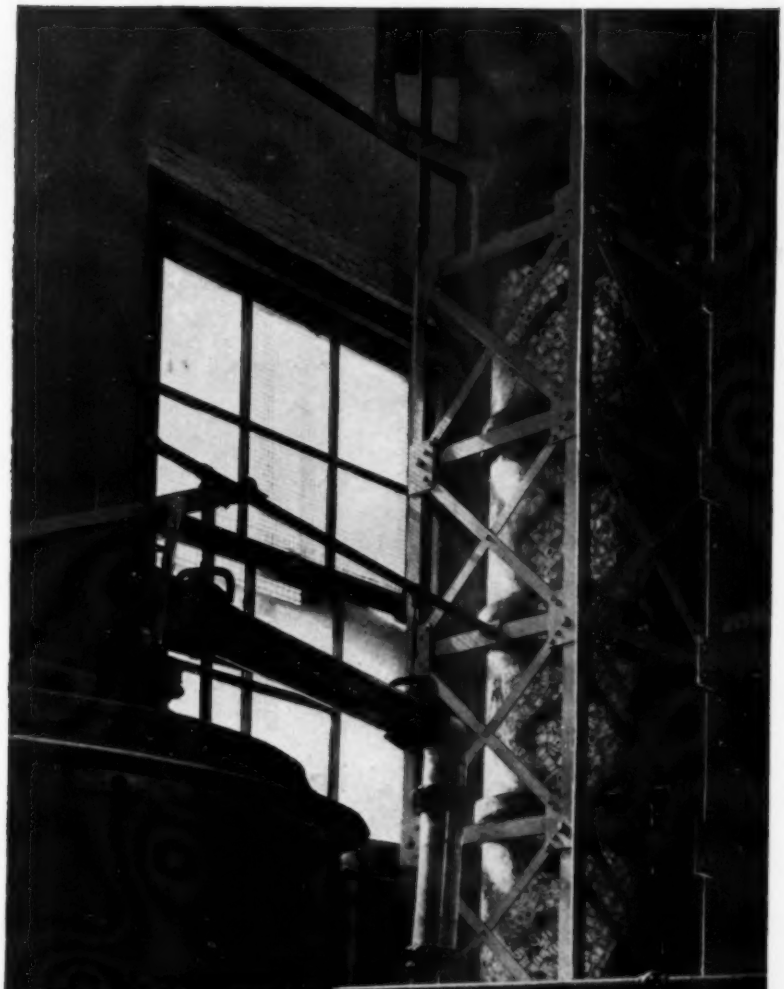
Much new equipment has been installed in the N.Y.Q. plant to meet the great demand of the armed services for N.Y.Q. products. Miracles of construction have resulted in miracles of production. Of necessity, the great percentage of increased production now goes to the armed forces. But when peace comes, these expanded facilities will enable us to give our regular consumer trade even greater quality and service for N.Y.Q. materials.



Right: At N.Y.Q.—recently installed all glass unit to preserve purity of medicinal products manufactured.

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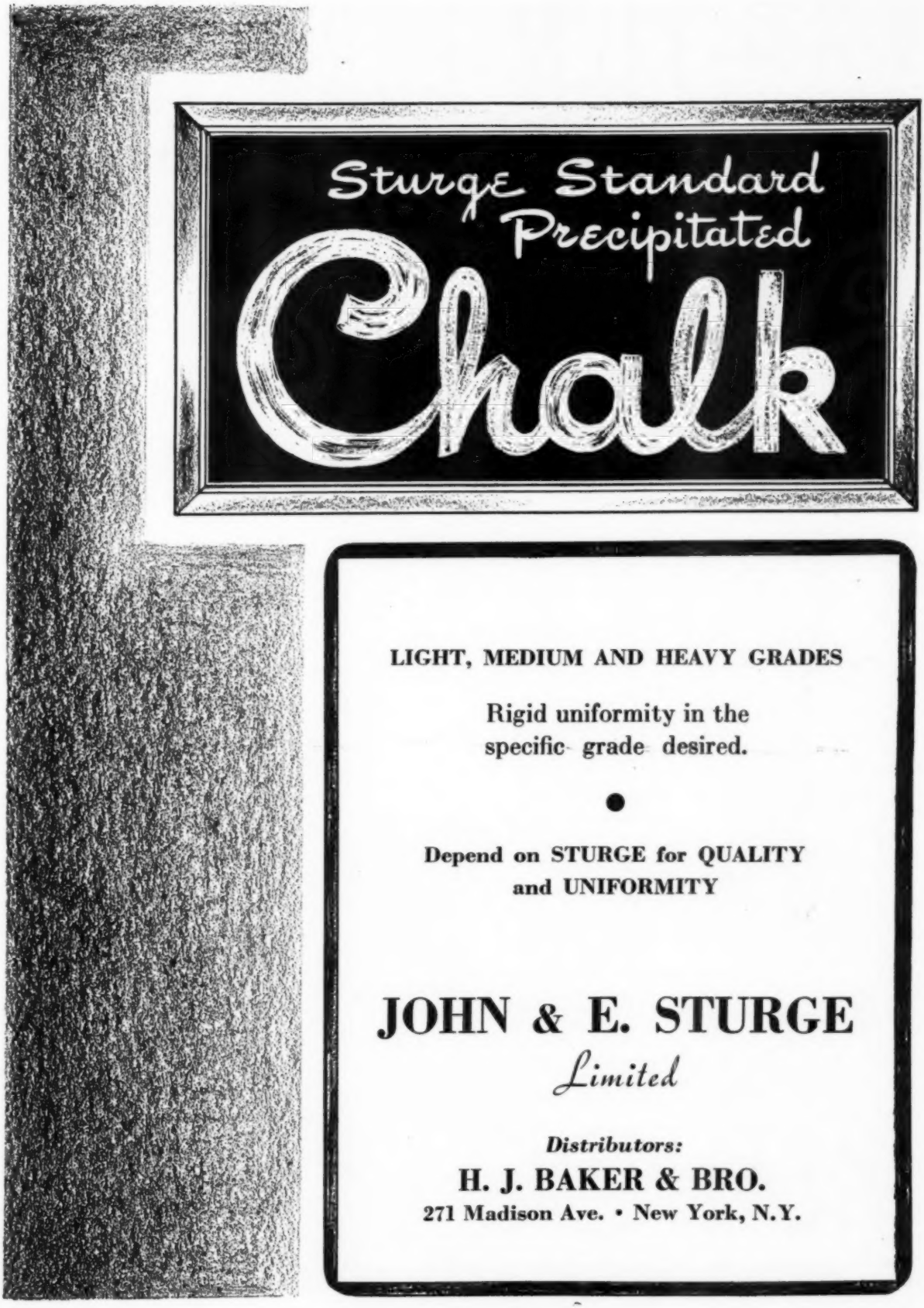

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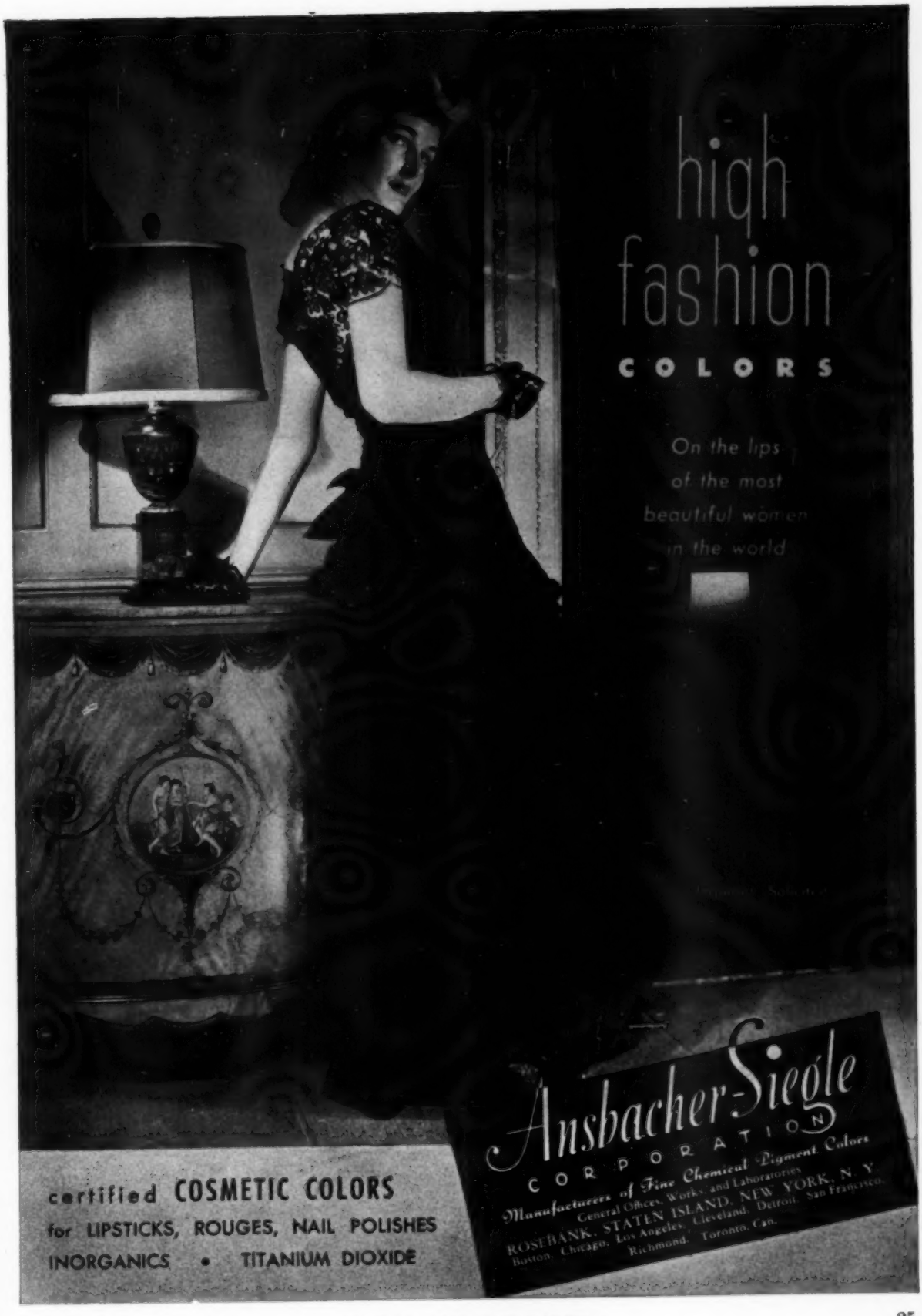
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Official U. S. Coast Guard Photo

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Behind the magnificent job of enemy submarine control by the men of our Navy, Coast Guard, Army Air Force and CAP, is efficient planning. And as a result, the submarine menace is diminishing.

Whether it's dropping eggs on submarines or refining White Mineral Oil and Petrolatum, it takes intelligent planning to do the job right.

Thirty-nine years of this kind of planning . . . plus unmatched production efficiency . . . enables SONNEBORN to meet rigid requirements of the drug and cosmetic industries for White Mineral Oils and Petrolatums of unexcelled Quality, Uniformity and Dependability.

Along with every refinery and plant in the American petroleum industry, we are making government cooperation for victory our first consideration. However, we can still supply quantities of SONNEBORN U.S.P. and Technical White Mineral Oils and U.S.P. Petrolatums. (See partial list below.) And we are prepared to assist you in adapting these materials to the solution of your wartime problems.

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WHEN YOU

THINK ABOUT IT

As a user of glass containers there are doubtless many interesting things about Carr-Lowrey that may not have occurred to you.

For example, while we're not the oldest glass manufacturer in the business . . . we ***have*** been making quality glass containers for more than 50 years!

And while we are not numbered among the largest glass manufacturers in America . . . hundreds of well known drug, cosmetic, food and household products ***are*** enclosed in Carr-Lowrey glass containers.

In fact, when it comes to the manufacture of glass packages specifically designed to meet your particular need efficiently and economically, the excellence of Carr-Lowrey products will be found to equal or exceed similar containers manufactured elsewhere!

That is because every order that we receive is accorded the most painstaking treatment by skilled workmen, jealous of their hard-earned reputation for top quality craftsmanship in every detail.

Worth considering, isn't it . . . **WHEN YOU THINK ABOUT IT.**

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MERCK

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We invite you to consult us regarding your manufacturing problems and requirements

ARMY E NAVY
BACK THE ATTACK WITH WAR BONDS

MERCK & CO., Inc. *Manufacturing Chemists* RAHWAY, N.J.

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There are orders for the Armed Forces to be filled, also the orders of our customers who by their continued patronage and loyalty have earned a consideration we are privileged to honor. And these Civilian orders are mighty important orders, too, for they are playing their share in the vital role of sustaining a high morale on the home front.

Therefore, the servicing of *new* accounts in our present production schedule is not always physically possible. For this reason we urge that prospective clients talk over their requirements with us first to avoid possible disappointment and misunderstanding. Such discussion, to be sure, may not be a guarantee that their orders will be filled, but it is a guarantee of Allied fairness and willingness to consider your problem, and whenever possible, help you solve it.

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The possibility that African ports may be shortly opened to American commerce makes C. A. P. P. once again of great interest to American consumers of essential oils and perfume materials.

This company is established in various parts of Africa with large plantations and modern distilling and extracting plants. Laboratories and plantations are at Meknes and Marrakech (Morocco), Labbé-Nadel (French Guinea) and Nossi-Bé.

Products of C. A. P. P. are:-

ABSOLUTES	Karo Karounde, Oak Moss, Mimosa, Rose Morocco, Ylang Ylang Nossi-Be.
OILS	Basil, Chamomile Morocco, Cedrus Atlantica, Geranium Morocco, Petitgrain French Guinea Bigarade, Lemon; Sweet Orange French Guinea; Ylang Ylang Nossi-Be.
TERPENELESS OILS . .	Cedrus Atlantica, Lemon, Sweet Orange.

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DIVISION OF UNITED STATES RUBBER COMPANY

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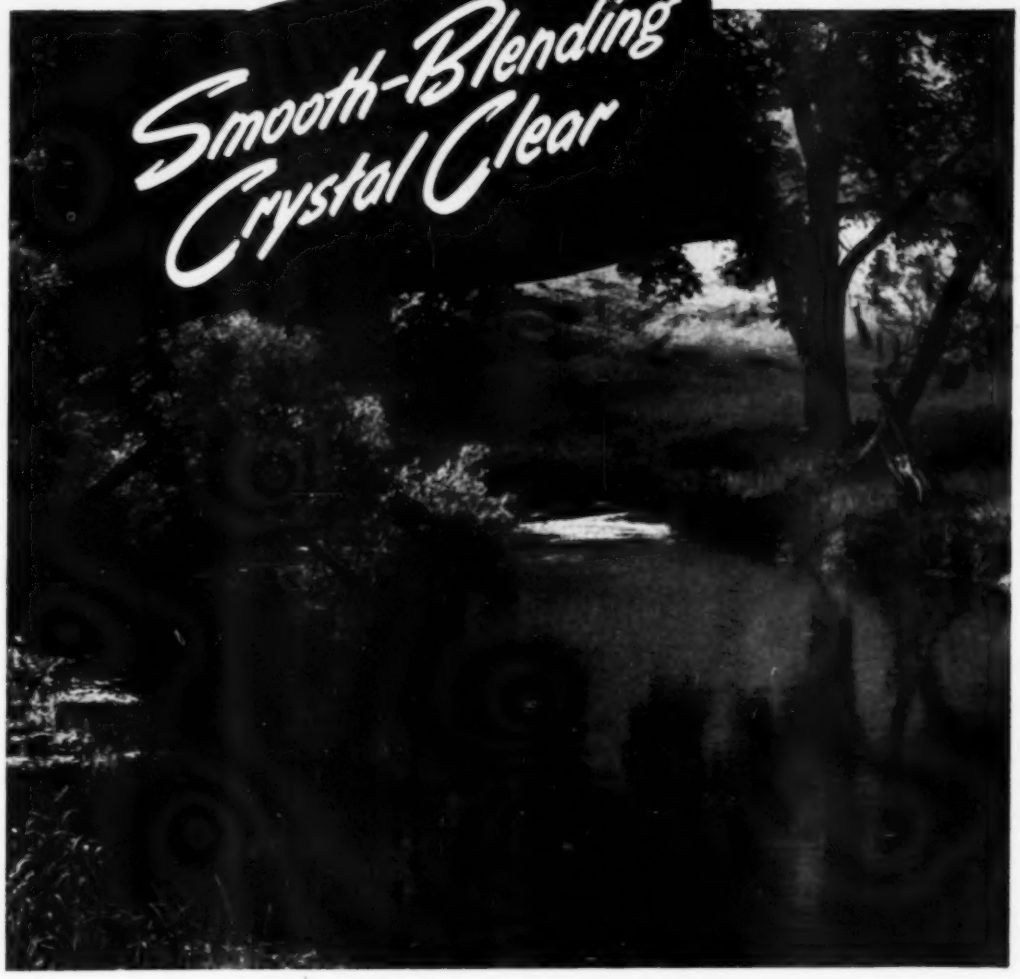
Sole Representatives for: BRUNO COURT, S. A., GRASSE, FRANCE C. A. P. P., CASABLANCA, MOROCCO



Penn·Drake White Oils

make your good cosmetics better!

Crystal clear . . . unmatched brilliance . . . and all the qualities that assure finer, smoother preparations stem from Penn-Drake's seventy years refining experience. And these better qualities do not deteriorate on dealer's shelves!

Write Dept. 103 for valuable information on Penn-Drake White Oils or other products.

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IN THE PLANT – Our technical representatives frequently can give advice on customer problems involving solvents, emulsifying agents, wetting agents, plasticizers, coupling agents, and chemical intermediates. They are thoroughly familiar with the properties, applications, and uses of the more than 160 chemicals we make.

IN THE LABORATORY – They can give you information on the many new chemicals we have announced for research study. And they can tell you about recent applications of older products that you may be using. These representatives are chemists and chemical engineers who have had experience in our research laboratories and understand research problems and techniques.

IN THE OFFICE – In your chemical purchasing problems as well, our representatives can be of service . . . advising on price, shipping, and priority regulations, the routing of orders, and the availability of chemicals we make, or their replacements. These men are located in all the major chemical-consuming cities throughout the country.

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PRODUCERS OF SYNTHETIC ORGANIC CHEMICALS

KEEPING POSTED

FDA After Retailers

THE Food and Drug Administration took its initial step against the sale of sulfa drugs over the counter without a physician's prescription. A Federal Grand Jury indicted Samuel B. Punsky, proprietor of the Franklin Pharmacy, Portland, Maine, charging that he had sold three agents of the FDA 64 sulfathiazole tablets in misbranded containers. Punsky, who is not a registered pharmacist, pleaded nolo contendere and was given a suspended $1,000 fine, and placed on probation for one year. The indictment charged that Punsky took the tablets from a bottle labeled "for use only under direct supervision of a physician," and placed them in unlabeled containers when he sold them.

It appears that military and public health officials in Portland had been confronted with the problem of members of the Armed Forces, as well as civilians, making indiscriminate use of sulfa drugs in self-medication of venereal diseases. The jury said:

"Indiscriminate and unrestricted sale of sulfathiazole and other sulfa drugs to the public without adequate directions for use and close medical supervision constitutes a danger to health and is contrary to public welfare and is handicapping the efforts of the Army, Navy, and civilian health authorities to protect the nation against the hazards of gonorrhea, a common social problem."

The Food and Drug Administration clearly indicates that this is only the first of many actions to be brought against retail druggists to break up the practice of retail sale of over the counter sale of dangerous drugs, wherever it may exist.

Aluminum for Tubes

ALUMINUM is now being made available for the manufacture of collapsible tubes, but it has not been made available for the production of lipstick holders. As a matter of fact, the extent to which the use of this metal is permitted for tube manufacture is quite limited. An amended WPB order allows the use of aluminum for tubes, but its use is governed by the provisions of Order M-115. The amendment which provides for the use of aluminum simply means that a manufacturer may switch to aluminum in instances where the use of tubes of low tin content causes discoloration or deterioration of products. Even though the switch to aluminum is made, the limitation of the quantity of tubes allowed by the order to be used, still obtains. In other words, some manufacturers will be allowed to use better tubes for some of their products, but they will not be allowed to increase the number of tubes which they have been allowed to use under the terms of the original order.

Arizona Restricts Vitamins

THE Arizona Board of Pharmacy has issued regulations following closely those issued by the New Jersey and Indiana Boards of Pharmacy, which provide that vitamin preparations which do not include in their labeling the statement, "Not for medicinal use," in a plain and conspicuous manner, shall be sold only in drug stores.

The Ninth Circuit Court of Appeals upheld an order of the Federal Trade Commission against a drug manufacturer who included in the labeling and advertising of a douche powder, the initials "M. D." The Commission contended that use of the initials was deceptive, in that they conveyed the impression that the product was endorsed by physicians.

Waste Paper for Cartons

AS AN indication of just how serious the waste paper salvage is was the announcement by Robert Gair Company early this month that on the first working day of this year the plant at Tonawanda, N. Y. was closed because of a lack of waste paper. The plant was opened on the following day because of the arrival of several cars and trucks of waste paper. But as a company official described it: "It's strictly a hand-to-mouth proposition, and it's doubtful whether we have enough waste paper on hand to run a full twenty-two hours."

More Metal Containers

THE use of metal containers for various products has been very greatly eased by WPB with the result that the demand for glass containers for many products will no longer exist. This will mean that glass manufacturers will have greater capacity available to make shipments against quotas allowed in the glass bottle limitation order.

Many things which were denied metal containers now may use them, such as: Alcohol, inflammable cleaning fluid, hydraulic brake fluid, movie film, polishes and waxes, roof coatings, turpentine, lubricating oils, motor oils, putty and caulking compounds, lacquers, shellacs, liquid insecticides and fungicides, varnish remover, lemon

Twenty-five Year Flu Cycle

WE REFER back to our issue of March 1943, page 264, under the heading of "Flu Epidemic Predicted," which article was taken from the advance release of the address to be delivered by Dr. Thomas Francis, Jr. at the National Conference on Planning for War and Postwar Medical Services. The conference was held at the Waldorf-Astoria Hotel, New York, March 15, 1943, and Dr. Morris Fishbein, editor of the Journal of the American Medical Association was in charge of publicity and many other phases of the conference. Dr. Fishbein had the advance copies of the addresses and issued the advance releases.

In the advance release, which was published in daily papers throughout the country, as well as in this magazine, Dr. Francis stated that influenza had a twenty-five year cycle, and since the previous epidemic had occurred in the Winter of 1918-1919, he predicted another epidemic in the Winter of 1943-1944. However, when Dr. Francis delivered his address before the conference he was very cagey and did not make the prediction which the advance releases said he would make. Much to our chagrin, we had numerous letters asking us for more information regarding this prediction which it was stated that Dr. Francis was to have made. Likewise,—we hope—much to the chagrin of Dr. Francis, the epidemic did occur, although he pulled in his neck at the wrong time. But thanks to his advance release we made the following statement: "Drug manufacturers must be prepared for next Fall and Winter."

juice, sweet syrups, cranberries, pimentos, and boned chicken. In addition, many food items are given unlimited quotas for 1944, and still more food items are given 100 per cent quota of the base period.

All of this should make it easier for manufacturers in this industry to obtain the bottles which they are entitled under the quota allowed, and should also eventually permit the quota to be raised.

Raw Materials After the War

THE question of why many vitally needed botanicals which are native to the tropics of this Hemisphere are imported from countries in the Eastern Hemisphere, Dr. W. H. Camp, speaking last month on the radio program of the New York Botanical Garden, had the following to say:

"In answer to the question of why so many of these vital plants that are native in the American tropics have not been grown on a commercial scale in this hemisphere, I will mention only one factor. Plantation workmen in the American tropics have been better paid than those in other tropical regions. And that has meant that American plantation owners could not compete with those of other regions in the same crops. Their operational costs were too high. For example, I have recently analyzed the cost of a certain vital war item now being grown for the first time in this hemisphere. It costs the plantation owner in tropical America, with labor at only 30 cents a day, almost twice as much as the oriental grower to produce the same article. The post-war fate of this newly developed tropical American agricultural industry is easy to envision unless steps are taken to reorganize its basic economy so that oriental competition can be met."

Vitamin Prices and OPA

OPA has agreed to withhold issuance of any price order on vitamin products until March 1 at least. It is thought that the OPA has definitely backed down on its idea of issuing any such order and that this postponement is merely a step in abandoning the attempt to issue any such order. In view of the situation, the manufacturers who had started a court action to restrain the OPA from issuing any such order have withdrawn the petition to the court.

It is quite likely that the OPA has been advised that such an action might bring about attempts by Congress or others to abolish OPA for the reason that any order attempting to reduce prices below the price levels at which they stood before the war started was merely control of profits that might be extended to all products of all industries, taking away from producers the right to price their own products within limits dictated by competitive conditions. The contention of vitamin manufacturers is that prices of vitamin preparations have been reduced ten per cent due to competitive conditions. The OPA wanted to reduce prices by fifteen per cent below the levels at which they stood before we entered the war even though it is admitted that these prices have not been raised since we entered the war.

This is a distinct victory for the vitamin manufacturers of this industry, and it is a victory that should be acclaimed by all manufacturers of all kinds of products in this country. Manufacturers in this industry and in other industries should be on guard against attempts to revive this idea in some other direction.

Isopropyl for Bay Rum

THE Food and Drug Administration states that during the present emergency no objection will be made to the use of isopropyl alcohol in bay rum if the product is offered solely for cosmetic purposes and is labeled with a conspicuous statement showing it to be manufactured with isopropyl alcohol. Previously the Administration objected to the use of isopropyl alcohol in bay rum because it has always been made with ethyl alcohol. Manufacturers will probably appreciate this action on the part of the FDA, but they would appreciate it more if the FDA would tell them how to obtain the isopropyl alcohol for this or any other use. It looks like a nice gesture on the part of the FDA but it comes a little late and really does not mean anything in the way of help to the beleagured manufacturers.

Foot Powder Stipulation

A STIPULATION accepted by the Federal Trade Commission from a manufacturer of a foot powder prohibits the manufacturer from making the following claims, directly or by implication: That the powder is sold nationally; that the powder is the result of scientific research or a study of foot ailments; that statements in the advertising have been made by or are quotations from the literature

of the U. S. Public Health Service, or that the U. S. Public Health Service or any other agency of the U. S. Government has endorsed or recommended the use of the product. In other words a manufacturer is prohibited from referring to scientific research or endorsement by the U. S. Public Health Service unless such research has actually been conducted and has the Federal endorsement claimed.

Shipping Cartons

ATTEMPTS to have the shipping carton quota for veterinary products increased above the present sixty-five per cent figure have not been successful thus far. Certain representatives are said to have been in Washington recently making a plea for an increased quantity of shipping cartons for poultry remedies only, and since the War Food Administration at the moment desires an increased egg production, these people have been received much more favorably than those seeking relief for veterinary remedies as a whole.

Alcohol—Not Molasses

THE latest word on the attempt of this country to obtain molasses from Cuba for the manufacture of alcohol in this country is to the effect that Cuba is proposing to sell our Government some 50,000,000 gallons of neutral spirits and high wines from blackstrap rather than to sell us the raw molasses for conversion into alcohol here. This quantity of alcohol represents about two-thirds of the output of the Cuban distilleries. The price sought for this alcohol of 190 proof is 62 cents per gallon, and Cuba would have to purchase concurrently from Mexico, gasoline, or crude oil to replace the alcohol motor fuel which the sale of this alcohol would deprive them of. A Cuban report on the subject says:

"Since the entire blackstrap output, whether pure or mixed with high test, can be handled by Cuba's distilleries, it would be senseless for her to export blackstrap instead of alcohol, which occupies two and a half times less space, as it would be for a country where unemployment is rife to export the raw material its industry requires to another country where there is an acute labor shortage."

Glycerine Suppliers Easier

GLYCERINE recovery in the manufacture of soap, controlled under FDO-33 has been eased so that the small producer exemption is now 150,000 pounds per quarter instead of 10,000 pounds per month. Soap manufacturers consuming less than this quantity are not covered by the order, and the percentage of glycerine permitted in finished soap has been raised from 0.8 per cent to 1.0 per cent.

Lead-free zinc oxide has been placed under allocation by an amendment to WPB General Preference Order M-11-a. Lead-free zinc oxide is defined to mean any grade of zinc oxide containing 98 per cent or more of zinc oxide as ZnO. Delivery of not more than two tons in any calendar may be made to cosmetic manufacturers without special authorization provided delivery of this quantity does not increase the inventory above a forty-five day supply. For delivery of more than two tons in any one month, application must be made to WPB on Form WPB-410 not later than the 15th of the month preceding the month in which purchase is to be made.

The steel drum order, WPB Limitation Order L-197, has been amended so that no person shall pack in a drum any product which he did not pack in drums before September 14, 1942.

Drug Company Earnings

A FINANCIAL paper coldly analyzes the prospects of earnings by drug manufacturers as follows:

"Growing number of influenza cases in the United States won't have the same beneficial influence on earnings of drug companies this year and in 1944 as similar waves of bad health have had in the past. The excess profits tax has cut so deeply into the expanding profits of leading companies that only a small part of the gross income obtained through larger sales can be carried down to net profit.

"For many years stormy weather and wet feet have brought an immediate jump in the sale of medicines to relieve colds. Now preventative methods have been added, in the form of vitamins and oils, so the threat of seasonal colds or influenza offers two sales opportunities to drug companies."

In a stipulation accepted by the Federal Trade Commission from a cough drop manufacturer, the following paragraph appears:

"(2) representating, directly or inferentially, that said preparation contains Vitamin 'A' and/or that the use of said preparation will impart the benefits normally derived from the consumption of Vitamin 'A', or that the use of said preparation would serve to purify or soften all hardened places in the throat."

More Sugar for Drugs

MANUFACTURERS of drug products are being allowed increased shipments of both alcohol and sugar to replenish stocks which were severely drained during the recent nation-wide flu or grippe epidemic. Manufacturers are to be allowed an increase of twenty-five per cent in the amount of sugar which they may use for the preparation of specified products as compared with the amount used for making similar products in the first quarter of 1941. The items for which the extra is allowed are those listed in Class 14 on the industrial user sugar application form OPA R-1200, including: internal pharmaceuticals, allergy foods, vitamin oils, cough drops.

Oil of Peppermint Eased

OIL of peppermint control order, FDO 81, has been amended so that quotas for use are increased. The new allowance for pharmaceuticals is 100 per cent of the base period of 1941, for dentifrices 75 per cent, and for confectionery, chewing gum, and miscellaneous articles 70 per cent. The original order, effective November 1, 1943, temporarily limited manufacturers of all products to 30 per cent of 1941 use. Some other provisions in the amended order are: Oil of peppermint may be used to manufacture menthol if written application is made and the request granted; persons who did not manufacture articles containing oil of pepper-

mint in 1941 may make application for a quota; unlimited quantities may be used in articles delivered to the Armed Forces and other Government agencies.

Misbranding by Package Alone

THE Food and Drug Administration and the Army must have something in common. We state this since the FDA has brought an action against a manufacturer because the FDA claims that two products of the manufacturer are misbranded because they are packed in the same container, while the Army states that quinine and totaquine must be packed in different types of containers so that they can be identified by a lot of inexperienced people.

The manufacturer involved in the FDA action is the Monticello Drug Company, of Jacksonville, whose product "666 For Relieving Temporarily The Following Cold Symptoms." The FDA claims that the product, bottle, and carton are misleading because they constitute a statement or device leading people to believe it is the same as Monticello's "666 liquid," an antimalarial sold throughout the South for many years. Samples of both products show that they are both amber colored liquids, packed in bottles of the same type, and in cartons that are identical except for the wording. Both cartons are plainly worded and printed and the FDA does not contend that any of the labeling is inconspicuous. The active ingredient statements fit both products, and no question of therapeutic effect has been raised.

An FDA official states that for many years "666 Liquid" had been labeled for use for both colds and related disorders as well as an antimalarial, and that it has been widely used in the South as an antimalarial. Because of WPB restrictions on the use of cinchona alkaloids only for use as antimalarials, the company decided to offer the two products for specific uses and brought out the cold preparation in packages seemingly identical with the original preparation.

All of which leads to the conclusion that even though label statements are perfectly correct, the non-reading public must be protected against itself. How this is to be done by law we cannot fathom. Likewise the Army feels that it should be protected against the stupidity of its own personnel. The Army claims that it has many inexperienced people; not thinking of how many inexperienced people manufacturers have on hand. Manufacturers must not allow mistakes to happen because of their inexperienced people, but the Army must be protected against theirs.

No More Tube Turn-In

THE requirement that an old collapsible tube must be turned in when a consumer purchases a new tube of tooth paste or shaving cream goes by the board on March 1. From that day forward, a consumer can buy tooth paste or shaving cream just as he did before this requirement was put into effect. The amended WPB order M-115, that brings about this change, also changes the tooth paste quota to 75 per cent of the quantity packed by weight in 1941 rather than that packed in 1942 as provided last year.

"POOR DAD"

or

"WHO'S GOING TO MAINTAIN THE 'PORE HOUSE'"?

My father, poor, misguided gent,
Wasted his life; a life misspent
In working hard, and working late,
From six A.M. 'till way past eight.
Poor Dad! He'd fuss and fret and toil
And burn the sooty midnight oil
For nothing but a little cash
To buy the daily beans and hash.
Poor Dad! He was so mild and meek
He'd work six days in every week
And fourteen hours every day
To try to keep the wolf away.

Thus father, meaning well, but dumb
Amassed a rather tidy sum
With which he planned to buy some beers
To brighten his declining years.
The NEW DEAL came, and simple Dad,
Who worked so hard for all he had
Awoke one morn to find that he
Was now a public enemy;
A Scrooge; a louse; a social cyst;
An economic Royalist!

So dad industrious but dumb
Is now the source from which will come
The coin to buy the gasoline
For some poor underdog's machine
And bring the more abundant life
To every loafer and his wife.
From Dad will be extracted sums
For radios to cheer the bums
And furnish booze for the ne'er-do-wells
Who help to raise important hells
Poor Dad, the faithful, trusting goon
Was born just thirty years too soon.

Now any guy is just a cheat
Who says men ought to work to eat.
He's simply nuts! Out of his head!
Sit on your tail, or stay in bed.
The Government will see, by gad!
That you get yours, from chumps like Dad.

(With apologies to the unknown author)

Alcohol From Paper

FOLLOWING up the information which we have given on the subject of alcohol manufactured from waste sulfite liquors, John R. Callahan wrote in last month's "Chemical and Metallurgical Engineering" on the plant of the Ontario Paper Company at Thorold, Ontario, which plant is now producing 800,000 gallons annually. The plant is privately financed and was placed in operation June 18, 1943. The alcohol which it produces is

sufficient to produce some 2,000,000 pounds of Buna S rubber. In the design and initial operation of the plant the company was assisted by Dr. M. M. Rosten, chemical engineer who owns and operates the Kutno Chemical Works, Poland, and who has constructed more than fifty alcohol units of various sizes throughout Europe. According to the data supplied by Dr. Rosten before the Gillette subcommittee on industrial alcohol last November, the approximate direct cost per gallon by this method is 19.75 cents per gallon for 1,200 gallons of alcohol with 60 to 80 tons of pulp per day. For 4,000 gallon alcohol operations, with 200 to 250 tons of pulp daily, the cost per gallon of alcohol is about 12.40 cents. These figures are believed to be conservative but do not include overhead and amortization charges.

All of which seems to mean that if this country is to be permanently on a basis of much higher consumption of alcohol during the post war period, plants of this kind might come into the picture. However, this would mean that we would continue to produce our own rubber and not go back to the natural product when it again becomes available. Under such circumstances, production of alcohol from molasses and petroleum gasses might not be sufficient to meet our demands. Certainly it is not likely that we will continue to use corn and wheat as alcohol raw materials after the war. However, there are so many variables in the picture, such as how much alcohol we are going to need, how much molasses we are going to have, how far the petroleum gas plants will be expanded, that any attempt to forecast the exact situation is little more than guesswork.

America and Postwar Medicine

THAT this country will lead in postwar medicine was predicted by Dr. Arthur Freeborn Chace, retiring president of the New York Academy of Medicine. In his report he said:

"Years, perhaps decades, must elapse before these centers (European) of medical education can be restored or reestablished. In the present and immediate future the medical men of all the world, and particularly the twenty-one republics of Central and South America and the West Indies, must turn to America and to a great extent to New York City for leadership."

More Bottles Ahead

THINGS are looking better for the cosmetic manufacturers and their supplies of glass bottles. This is for the reason that WPB has allowed a large number of products to be packaged in metal cans. When the use of cans was prohibited, these products had to be packaged in glass, and this increased demand for glass made it extremely difficult for the glass manufacturers to give cosmetic manufacturers the amount of bottles that they were entitled to under their quota. The amount of the quota did not mean very much if the bottle manufacturers simply could not turn out enough bottles to satisfy the quotas of everybody. Now the permission to use steel for tin cans will take the pressure off the glass manufacturers and supplies should be more easy to obtain.

Mayor La Guardia Butts In

MAYOR La Guardia of New York recently took it upon himself to decide what drugs should, and should not be shipped to Central and South American countries. In November the Mayor and New York Health Commissioner Ernest L. Stebbins placed an embargo on $100,000 worth of proprietary drugs prepared for shipment to these countries on the theory that "what is no good for us is no good for our neighbors." Thus the Mayor gets all excited about something that is none of his business and which is strictly in accordance with the terms of the Federal Food, Drug, and Cosmetic Act. For the terms for export of medicinals has never varied since they were written into the original Food and Drugs Act. The law provides that medicines exported must either conform to the standards required in this country, or to the standards of the country to which they are being exported. Now the Mayor wants us to high-hat our neighbors to the South and tell them they cannot have what they want, but they will take what we want to give them.

The Mayor blew off as follows when his embargo was recently discovered: "It is indeed a sad commentary, if after all that our President has done and is doing to bring about good neighbor feeling and close relations with our sister republics of Central and South America, we should for profit resort not only to the days of dollar diplomacy but in this instance to dirty dollar diplomacy.

However, Leo T. Crowley, head of the Office of Economic Warfare, does not agree with the Mayor and wants the goods exported as they should be. The products in question appear simply to contain label claims that are permitted to be made in this country.

Racemic Menthol As Denaturant

RACEMIC menthol, such as is manufactured by Givaudan-Delawanna, may be used as a denaturant for specially denatured alcohol in place of the U. S. P. material. The Treasury Department made this ruling following a request by Givaudan. A sample was submitted to the Treasury Department together with data concerning the relative toxicity and other characteristics of the optically inactive isomer compared with U. S. P. menthol. On the basis of this information and because the racemic menthol is approved both the British and German pharmacopoeias, its use was allowed in formulas 37, 37A, 38A, 38B, 38C, and 38D.

Cosmetic Colors

THE Toilet Goods Association is trying to clarify the use of color shade names by manufacturers of face powder, rouge, nail polish, compacts, and the like. The idea is that names recognized by long usage in this industry and other industries may be used by any member of the industry. New names which manufacturers wish to monopolize should be fanciful and arbitrary and should not correspond with names already in use for these shades in this or any other industry. For example, a name such as "Wrath" which characterizes a grey color in the "Historical Color Guide" might possibly be used for a red lipstick, as it would be clear that the new use of the name would be arbitrary and fanciful as applied to a red color. Also, such new names should not conflict with existing trade-marks in the industry.

"CARTELS" TO THE FORE

THE word "cartel" has become a prominent one so far as the Government of this country is concerned. As everyone knows this word is used to describe a combination of manufacturers for the purpose of dividing up existing markets for the products of these manufacturers. Cartels have been formed in Europe for many long years, and this country has often felt the effects of these agreements. Ever since the close of World War I, when steps were taken to lift the burden of the reparations payments from Germany's back and permit her to build up industrially again, agreements with German manufacturers were made by many manufacturers in this country.

These agreements were made with a view to exchanging the rights to patents and processes so that manufacturers in each country could carry their businesses forward with the assurance that they would be in complete control of all the latest processes. As a part of these agreements, competition was eliminated and territories divided, since naturally no one would like to give his processes to one who was going to enter into direct competition with him. In the strict sense of the word, these agreements were not cartels since they were simple agreements between American manufacturers and manufacturers of Germany or some other single European country. Cartels are generally thought of as agreements including manufacturers of many nations merely for the purpose of dividing markets.

But in the language of Washington officials, these agreements are in the nature of cartels, and so far as division of territories and elimination of competition is concerned, they are right. However, during the period for which we were preparing for the present war, the Government blamed all shortages of essential materials on agreements of this kind, and just recently Wendell Berge, chief of Attorney General Francis Biddle's Anti-Trust Division, said:

"The cartel system, which has plagued us with shortages of critical materials, lack of know-how and industrial skills during war, and unemployment and idle plants during peace, must not be tolerated in this country."

The peculiar part of the Government action against these agreements is that although all actions previously taken were against manufacturers who had made agreements with German manufacturers, but now an action has been brought against E. I. du Pont de Nemours & Co., because of an agreement with a British company, the Imperial Chemical Industries, Ltd., of London. Others involved in this case are Imperial Chemical (New York) Ltd., and Remington Arms Company, Inc., owned by du Pont.

The list of companies in this country who have entered into agreements with manufacturers of foreign countries is naturally quite long. And there are many others who contemplated quite seriously taking the same step. These latter companies failed to enter into these agreements only because the proposals were not attractive enough from their viewpoint. Perhaps the companies which did enter into agreements were offered propositions far more attractive than those offered to the companies who did not enter into such agreements.

It is quite true that following World War I, there was built up in this country a real organic chemical industry which did not exist prior to that war. This was the result of our being at war with Germany, and was also the result of a tariff that permitted this industry to grow and prosper. Without the tariff with its famous "American valuation" clause, we would never have had this enormous organic chemical industry to supply us and our Allies with staggering needs of critical materials, not a small part of which is medicinals.

However, it must be realized that after the close of World War I, American chemical manufacturers had access to all the patents and processes of Germany because these patents were seized by the Alien Property Custodian and were available for manufacturers in this country. As we worked away from World War I, the Germans had later and improved processes which could become available to American manufacturers except by agreements covering an exchange of patents and a division of territory. It must also be remembered that the tariff was under attack during the years just preceding the present war, and serious competition by foreign manufacturers was a real threat.

There can be no question that agreements of this kind restrict markets. Such restrictions are, of necessity, part of any such agreements. However, the agree-

The Government is claiming that all agreements between manufacturers in this country with manufacturers abroad constitute "cartels". Further, the Government blames the shortages of essential materials that existed at the outbreak of the war on these agreements.

ments also protect the American market for American manufacturers and also supply American manufacturers with much knowledge which they otherwise would not possess. Apparently there can be no hard or fast rule concerning whether or not these agreements are advantageous to the manufacturers who enter into them or to the Nation as a whole. However, it is the history of this country that its greatest accomplishments have sprung from individual initiative and that its greatest strides forward have been made when it operated alone. This is the reason why it has been able, in the present emergency, to produce food, arms, equipment, and all manner of things to supply not only its own Armed Forces and civilians, but also to supply its Allies. Under the system that has prevailed in this country, the nation has advanced to its present enviable position, and it does not seem that it would be wise to change this system or to let the hand of European countries stay our progress.

In the action brought against Imperial Chemical Industries and du Pont, Lord Harry Duncan McGowan, chairman of Imperial, says with regard to the agreement between the two concerns:

"First is the patent processes agreement under which the two companies make known to each other the fruits of their respective large research organizations in the defined fields of chemical science, and cross-license to one another, for use in defined countries, patents arising therefrom.

"Secondly, it is a joint investment under which the two companies are major stockholders in chemical manufacturing companies in Canada, the Argentine, and Brazil, to which they make available all their technical and commercial knowledge in the defined fields of chemical science.

"I believe this policy of cooperation has been of public benefit in the United States and the British Empire as well as in the South American countries concerned. I have already made known the company's willingness to register all arrangements of this kind which it has made, or may make in the future, with the appropriate British Government department."

W. S. Carpenter, Jr., president of du Pont issued the following which directs attention to the benefits derived from agreements which his company has made with foreign countries:

"The action of the Department of Justice again focuses attention on the existence of so-called 'cartels' involving American companies and European companies. The du Pont Company denies that it is now or ever has been a party to any cartel arrangement using the term cartel in its generally accepted sense.

"The du Pont Company has for years had an agreement with Imperial Chemical Industries providing for a mutual opportunity to acquire patent licenses and technical and scientific information relating to the chemical industry. It is asserted unequivocally that this agreement has been of the greatest benefit in giving to the American public products and processes which have materially raised the standard of living. Even more importantly in connection with the present war effort, the knowledge resulting from this agreement and the products made available as a result of it have been of inestimable value.

"Agreements of a similar character but limited to specific chemical fields have been made from time to time with continental European companies. And again from the exchange of scientific data many valuable products have resulted for the use of the American public and necessary to our Armed Forces in this war. Du Pont chemists have materially improved and have further developed the scientific data flowing from these contractual arrangements. The scientific and technical information stemming from these agreements has contributed substantially to American progress and to the success of American arms.

"Among the more important products which have resulted from these agreements and to which reference may be made without disclosing military secrets are the following: developments incident to synthetic ammonia made from nitrogen extracted from the air, without which we could not have smokeless powder and TNT in anything like the quantities needed; a process for manufacturing metallic sodium which is indispensable in making tetraethyl lead; the development of methyl methacrylate, the glass-like enclosures to be found on every combat airplane; a new degreasing process vital

(*Continued on page 48*)

DRUG PLANT CULTIVATION

DRUG plant cultivation, a most interesting topic in this country under present conditions, was discussed in a conference on the cultivation of drug and associated economic plants in California under the auspices of the California State Department of Education and its agricultural school, the California Polytechnic School of San Luis Obispo. The conference took place at Los Angeles December 28 and 29.

One hundred persons attended, comprising educators from the universities and colleges of the State, health officials and other political officers, medical men, pharmacognocists, and farmers. The farmers, together with a few business men did most of the questioning, discussing and arguing of the many topics. The presiding officer was Dr. Frederick W. Roman, of the Board of Regents of the University of California. He contributed much to the economic and political aspects of the discussions. State officials from various departments heartily supported the movement. Plans were laid to make the conference a permanent organization which would hold annual meetings.

Cascara Sagrada came in for particular consideration. All members of the California State Forestry Board were present, also representatives of the industry from Washington and Oregon. A three-part program was approved, comprising coppicing, wild seedlings, and cultivated seedlings. With a view to improving the quality of bark, it was agreed that collections from the younger trees (six to twelve years) be adopted. Mechanical stripping of the bark is to be tried.

The discussion of pyrethrum did not come up to expectations. One reason seemed to be the progress in the development of new chemical insecticides. The absence, because of transportation difficulty, of Dr. G. B. Gnadinger, Minneapolis, also removed some of the interest in the subject. About 100 acres are being planted in California this Winter and some 25 acres are being held over from last year.

There was a special symposium on condiment crops. In the order of their total acreage in the State, which closely parallels weight of production, the chief California crops are mustardseed, poppyseed, paprika, sage, caraway, sweet basil, marjoram, thyme, summer savory, and rosemary. Cultivation in smaller lots or experimentally comprises anise, fennel, dill, coriander, celeryseed, cumin, and mint. Condiment crops are currently on several thousand acres, and it was expected that plantings will be increased as long as high prices prevail.

Senna and licorice are being extensively experimented with in the State. Spanish licorice is well established and yields roots of exceptionally high quality. In certain districts in the southern part of the State it is believed possible to grow licorice as an annual crop.

At the opening session, the purpose and program of the conference were explained by Dr. E. N. Gathercoal, emeritus professor of pharmacognosy at the University of Illinois, who was one of the vice-chairmen of the conference. The program was made up of the following subjects:

Development of Medicinal and Related Plants in California, by Monroe C. Kidder, director, division of drug and oil plants, State Department of Education, California Polytechnic School.

Investigation of the Chemical Structure of Essential Oils, by Dr. A. G. Haagan-Smit, California Institute of Technology.

Essential Oils from Cultivated and Native California Plants and Trees, by Frank W. Williams, general manager, Fontana Farms.

Japanese Mint (*Mentha Arvensis*) in California, by C. F. Ten Eyck, Ten Eyck Laboratories.

Peppermint (*Mentha Piperita*) in California, by J. O. Hayes, peppermint grower.

Oakmoss (*Evernia Prunasti* and *Evernia Vulpino*) Used in Perfumery, and Oil of Citronella from *Eucalyptus Citriodora*, by Dr. Eric C. Kunz, Givaudan-Delawanna, Inc.

Some Commodity By-Products of Aid to California Agriculture, by Dr. J. R. Matchett, United States Department of Agriculture Western Regional Laboratory.

California is giving real attention to development of cultivation of drug and related plants in that State. An important conference was held last month. This may only be a starter depending on the length of the war and upon economic conditions in the post-war period.

Pectin from Oranges and Lemons as Used in Modern Medicine, by Dr. Glenn H. Joseph, research chemist, California Fruit Growers Exchange.

Aloe Vera Leaves for the Treatment of Burns, by Dr. W. R. Maloney.

The Borderline Between Food and Medicine in Some California Plants, by A. J. Lorenz, director of nutritional research, California Fruit Growers Exchange.

New Crops for California: Castor Beans, Fenugreek, Guar, Thornless Safflower, by Dr. A. B. Madsen, University of California.

Senna and *Cnicus Benedictus*, by Dr. E. N. Gathercoal, University of Illinois.

Digitalis Lanata, by Dr. E. Geiger, formerly of the University of Prague.

Experimental Work and Problems in Condiment Crops, by J. E. Knott, University of California.

Development of Condiment Crops in California, by Dr. H. M. Butterfield, University of California.

Herbs and Spices in the Meatpacking Industry, by H. W. Matthews, Swift & Co.

Preparation of Condiments and Spices for Retailing, Fred Johnson, Spice Islands Company.

Standards for Condiments, by E. L. Ahlgren, Ben Hur Products.

Production of Capsicums and Paprikas in California, by Clarence Brown, grower.

Edible Blue Poppyseed as a Commercial Crop in California, by Dr. Herbert L. Mason, University of California.

Pyrethrum Flowers, by Dr. G. B. Gnadinger, McLaughlin Gormley King & Co.

Drug Plants Under Cultivation in Illinois, by Dr. W. W. Wirth and Dr. Ralph F. Voight, University of Illinois.

Red Squill in Rodent Control, by Dr. Elmer Belt, president, California State Board of Health.

Licorice Production, by W. W. Walker, MacAndrews & Forbes Company.

Cascara Sagrada Replanting on Logged-off Lands in California, Oregon, and Washington, by Henry Callison, J. P. Callison & Sons.

BRAZILIAN MENTHOL

Cable advices from Brazil report further cuts in the estimated 1944 production of menthol, according to C. T. Lipscomb, Jr., vice-president in charge of the industrial chemical division of McKesson & Robbins, Inc., in New York, who returned recently from an extended visit to that country to study and stimulate sources of supply of this drug.

Pointing out that 1943 production was only between 40,000 and 50,000 pounds of menthol U.S.P. crystals, Mr. Lipscomb indicated that current plans for expanded output should provide "more than half" of United States consumption of approximately 550,000 pounds, but that the enthusiasm for this expansion had resulted in a "considerable overselling." He continued:

Because of the prolonged drouth last Fall, the last Summer plantings of the Japanese-type mint failed; and the replantings were so delayed that substantial deliveries of menthol cannot be expected to reach United States consumers before March, and the mint crop this year will probably be restricted to two cuttings instead of the three previously counted on.

When I was in Brazil I called with our company's Brazilian representatives upon the government officials in the Bank of Brazil who advised us that their government did not intend to grant further export permits for menthol at any price below $29 per kilo. Early in November it was estimated that contracts, mostly with United States drug concerns at prices from $29 to $31 per kilo, had already been made for 1944 deliveries in excess of probable production.

At the same time we were able to obtain an official letter cancelling the government's regulation prohibiting export of menthol in tin containers. The letters of credit which McKesson & Robbins has issued therefore stipulate packing in tins hermetically sealed.

Although production was started in Brazil by the Japanese colony in Sao Paulo, the current expansion is being financed by Brazilian capital and nationals, and it is an important factor in inter-American cooperation in the war effort. McKesson and its local agents are working closely with the American embassy to make sure that sources of supply are approved.

EXTERNAL USES OF COD LIVER OIL

By M. A. LESSER

About ten years ago, reports began to appear in the medical literature concerning the value of cod liver oil when applied to burns, wounds, ulcers and dermatological conditions. Like many another so-called scientific discovery, there was nothing singularly new about such usage other than the fact that it was under critical control by trained workers.

Used for centuries as a normal health measure to combat effects of deficient sunlight in cold, foggy Northern lands,[1] cod liver oil had long been employed by fishermen for treating wounds, frostbite and skin lesions.[2] Completely unbothered by questions of absorption, toxicity or the like, these fisher folk rubbed cod liver oil on the skins of their children in order to treat and prevent many local and generalized diseases.[3] Local physicians had used the oil for treating burns and by the early 1920's it had been employed with considerable success by at least one English hospital for treating burns, wounds and injuries.[4]

The formal medical history of externally-applied cod liver oil really begins in 1934 when Lohr[5] reported its efficacy in the treatment of burns and wounds. Since that time, he[6] and many other workers have confirmed the benefits to be derived from this method of employment and numerous reports have appeared in the literature.[1, 2, 7, 8] In one of these, an extensive review of both published reports and his own eight year study, Aldrich[9] summarized the beneficial action of cod liver oil externally; stressing only those points on which the majority of workers agree. Thus it has been shown that cod liver oil is of particular value in wound healing because: (a) It is sterile and bactericidal; (b) It destroys staphylococci and streptococci; (c) It acts as a definite stimulant on granulation tissue and epithelium; (d) It accelerates liquefaction of dead tissue; (e) It induces a serum response that apparently benefits indolent wounds; (f) Its local action produces a beneficial generalized systemic effect; (g) It increases the metabolic rate of leukocytes by over 400 per cent; (h) It forms a protective, nonirritating film over the wound; (i) It can be used on mobile surfaces, such as the eyelids and mouth; (j) It eliminates most of the pain associated with daily dressings; and, (k) It reduces contractures and produces minimal scarring by inducing rapid healing.

It would appear that the most important effect of cod liver oil is its action to stimulate prompt and satisfactory granulation and regeneration of epithelium. Of course, there has been some question as to the mechanism of the oils' action and to what components this action may be attributed. The method by which cod liver oil acts is not fully understood.[9, 10] However, it is recognized that the high concentration of vitamin A and vitamin D normally present in the oil is probably the most important factor in the beneficial action of the agent. Nonetheless, there is considerable evidence that these vitamins alone are not solely responsible. Comparisons with other fish liver oils showed cod liver oil to be superior to the other agents, despite their higher vitamin A or vitamin D content.[10, 11, 12] Aldrich[9] has found that bland ointments containing added vitamins A and D did not produce the same effects as cod liver oil itself.

Indeed, some workers have been of the opinion that the activity of cod liver oil on wounds resides in some constituent other than the vitamins present[13, 14]. Other workers, however, readily concede the role of vitamins in wound healing, but stress that other components, such as the lipoids, unsaturated acids, iodine and phosphorus, must be taken into consideration when evaluating the oil's effects.[1, 15]

Controversy over the relative roles played by the two vitamins seems to have been well answered by McLaughlin,[16] who pointed out that while vitamin A appears necessary for the growth of epithelial cells, vitamin D is probably not essential, but that in the presence of vitamin A it is a powerful stimulant to cell growth.

The bactericidal action of cod liver oil undoubtedly contributes to its effective action on external application to burns and wounds. Lichtenstein,[17] after evaluating the anti-bacterial value of cod liver oil under various conditions and media, came to the conclusion that the bactericidal power of the oil is closely related to its content of peroxides and that this is increased by untraviolet irradiation. Earlier studies had

Although cod liver oil is generally thought of as a source of vitamins for internal consumption, the external uses for this product have multiplied in recent years. This article gives a comprehensive picture of these newer uses.

shown that cod liver oil is sterile and that bacteria introduced into it perish.[15] As far back as 1922, Campbell and Kieffer[19] noted that such oils have a definite inhibitory action and bactericidal effect on virulent tubercle bacilli. More recent investigations have confirmed the marked bacterial power of cod liver oil,[20] and tests against paratyphoid organisms indicate that it has an action about equal to a one per cent solution of phenol.[21] However, other studies have suggested that this bactericidal action is rather limited.[22]

The observation that cod liver oil can produce beneficial systemic effects after local application is very probably an important factor in hastening healing and promoting resistance. Thus in a series of experimental studies of healing rate of tuberculoces ulcers, Getz[23] found that not only did cod liver oil produce faster healing with little scarring, but that animals treated with the oil showed less generalized tuberculoses than the control group.

The absorption of vitamins A and D from cod liver oil probably plays a part in the systemic benefits observed. That certain vitamins can be absorbed percutaneously appears to be quite well established.[3] Vitamin D is especially noteworthy in this respect,[24] and there is evidence that while not as efficient by this route, vitamin A can be absorbed through the skin in physiologically significant quantities.[25] Indeed it has been suggested that the cutaneous route might be utilized in instances where there is defective vitamin A and D absorption from the digestive tract.[24, 25]

Externally, cod liver oil has found and continues to find its greatest role in the treatment of burns. Lohr,[5, 6] for example, on the basis of his experience with hundreds of cases of first, second and third degree burns, reported that while treatment with cod liver oil did not influence the primary shock, it was remarkably effective in controlling the infection of large areas. In his cases the oil was used as an ointment consisting of one part of crude cod liver oil mixed with two parts of petrolatum. In second degree burns of the extremities, Lohr employed the closed method of treatment, using a plaster of Paris cast. Many others who employed cod liver oil in the therapy of burns and wounds have used similar preparations.[1, 2] In the United States, however, pure commercial, rather than crude cod liver oil is used. Since commercial grades vary considerably in their vitamin content, Hardin[7] is of the opinion that only oils with at least the U.S.P. potency should be employed.

Others have obtained good results with the oil in its liquid form. Steel,[26] for example, applied lint soaked in cod liver oil to the area to be treated and covered it with a dressing. The dressing was left in place and resoaked with the oil every twenty-four hours until the end of the forty-eight hours—a decided advantage in treating large areas.

Various other modifications in the formulation of cod liver oil preparations have been prepared and tested by clinicians. Driver and his associates,[22] for example, obtained satisfactory results from a preparation consisting of 88 per cent of cod liver oil and 12 per cent of white wax. Aldrich[9] employed a proprietary preparation containing 70 per cent cod liver oil, a small quantity of phenol, plus benzoin and zinc oxide, in a wax base to treat indolent burns and burns of the face. In the latter instances, the ointment formed a comfortable dressing for these sensitive and mobile surfaces and reduced contamination infection to a minimum.

Hardin's reports,[7, 8] which constitute an extensive study of the subject, give much pertinent information. He compared so-called "home-made" preparations (e.g. 50 per cent cod liver oil in petrolatum ointments) with several newer, more elegant commercial products. He concluded that the commercial products were somewhat superior and that they more effectively masked the disagreeable odor of the oil—one of the chief disadvantages of therapy with this fish oil. Equally important, or even more so, was his observations that cod liver oil will not harm the most delicate tissues and that it may be applied to the naked brain, the cornea, the exposed intestines, and other tissues without fear of infection or irritation. Cod liver oil ointment, he said, is recommended as a superlative method of local wound therapy applicable to both clean and infected wounds of all types and in the treatment of both new and old burns of major severity.

(Continued on page 105)

ISOPROPYL ALCOHOL IN PHARMACEUTICALS

By LEWIS E. HARRIS*

ISOPROPYL alcohol was first made in 1855 by Berthelot by absorbing propylene in sulfuric acid with subsequent hydrolysis of the resulting sulfuric acid esters, a process similar to that employed in its industrial synthesis today with the exception that the propylene is now produced by cracking petroleum.

Isopropyl alcohol is a clear, colorless liquid of characteristic alcoholic odor and a slightly bitter taste. It is miscible with water in all proportions and is miscible with chloroform and ether. Its specific gravity at 25° C. is from 0.780 to 0.790. It volatilizes at low temperatures and boils between 81° to 82° C.

During the past several years, isopropyl alcohol has gradually replaced ethyl alcohol in many industrial uses such as solvent, extraction, etc. More recently it has had wide use in cosmetic manufacturing and today it shows excellent possibilities of replacing ethyl alcohol in a large number of pharmaceutical products and pharmaceutical manufacturing processes. It is worthwhile considering the possibility of substituting isopropyl alcohol for ethyl alcohol in many pharmaceuticals since the two alcohols are so similar in their physical properties. In moderate quantities, isopropyl alcohol does not produce the exhilaration in the human body that is characteristic of ethyl alcohol, hence there is no object in using it as a beverage and it has advantage, therefore, in being free from burdensome governmental control and taxation. Isopropyl alcohol is not only a satisfactory replacement for ethyl alcohol in certain uses but is actually superior in many respects. It also has advantages in having lower surface tension and greater fat solvent action than ethyl alcohol.

For some time isopropyl alcohol has been accepted for certain uses by the Council on Pharmacy and Chemistry of the American Medical Association and included in New and Non-Official Remedies. It is also found in the British Pharmaceutical Codex and, more recently has been accepted by the National Formulary Committee for inclusion in the next edition of this official compendium.

Isopropyl alcohol has been tested on many bacteria and, in general, found to have a more rapid killing power and to be effective in much lower concentrations than ethyl alcohol. For example, Westerman reported that 50 per cent isopropyl alcohol was equivalent to 70 per cent ethyl alcohol for disinfection when tested on certain staphylococci and streptococci, and Bernhardt found 40 per cent isopropyl alcohol equivalent to 60 per cent ethyl alcohol when used on Bacillus coli and Bacillus subtilis. Several other investigators have reported similar findings in testing on other organisms. At the University of Michigan Hospital, a 50 per cent solution of isopropyl alcohol is used for pre-operative preparation by the surgeon and also on the field of operation.

*Norden Laboratories, Lincoln, Nebraska. Paper delivered at meeting of American Pharmaceutical Manufacturers, December 13, 1943.

Pharmacological Aspects

A surprisingly large amount of pharmacological work has been done on isopropyl alcohol and is reported in the literature.

1. External Application:

Both Macht and Boruttau report that shaved areas on dogs, rabbits, and rats have been repeatedly sponged with isopropyl alcohol and bandaged without appearance of toxic symptoms, either local or systemic. They also found that when bandages saturated with isopropyl alcohol were worn by men for several days, local effects similar to those produced by ethyl alcohol were apparent. Investigations conducted by Burton-Opitz showed that wounds treated with 50 per cent isopropyl alcohol healed with normal granulations.

Several years ago we carried out an experiment in which applications of both undiluted and 50 per cent isopropyl alcohol were made twice daily to areas of approximately 300 sq. Oms. on arms of three persons in the laboratory. This was continued for 25 days with no evidence of skin irritation or absorption.

2. Oral Administration:

According ot Fuller and Hunter, Loffl and others, many humans have taken from ½ to 22 cc. of isopropyl alcohol in strengths comparable to that of wine or whiskey with no evidence of exhilaration or incoordination; however, headaches often resulted after two or three hours. These doses caused little effect on the respiration, the pulse was lowered, and some loss in appetite was noted. Loffl reported that three men took

Due to the Government demands for ethyl alcohol, increasing attention is being given to the use of isopropyl alcohol in drugs and cosmetics. This article covers the drug phase of isopropyl alcohol quite completely.

small doses of isopropyl alcohol daily for two days and then increased the dose to 16 cc. daily for several days without harmful effects. The work of Kemal showed that acetone is found in exhaled breath of humans about fifteen minutes after the alcohol is administered, and in the urine after one hour.

Several investigators have reported on effects obtained after administration to a variety of animals. Narcosis is produced by doses of 1.5 to 6.0 cc. per kilogram of body weight, depending upon the animal under test. Macht found the minimum lethal dose for cats to be 6 cc. per kilogram body weight, while Munch and Schwartze report 10 cc. per kilogram as a lethal dose for rabbits.

During the past few years we have conducted rather extensive experiments on the pharmacology of isopropyl alcohol. In one series, guinea pigs were fed 1 cc. per day by administering a 10 per cent solution in divided doses. At the end of 20 days no toxic symptoms were observed and the animals appeared normal on autopsy. Several hundred doses of two fluidrams of a product containing 12.5 per cent isopropyl alcohol have been administered to horses and cattle without a single toxic reaction. Another product containing 20 per cent has been administered in doses of one-half to one fluidounce to a large number of cattle with no evidence of toxicity.

3. Intravenous and Subcutaneous Administration:

Macht reports the lethal dose for cats at 2½ cc. of isopropyl alcohol per kilogram of body weight when injected intravenously in a 5 per cent solution, while about 4 cc. per kilogram is the lethal dose for dogs. Burton-Opitz found no narcosis was caused when small quantities were injected subcutaneously into dogs over a period of two days, nor when 10-50 per cent solutions in saline were injected in the jugular vein.

Uses in Pharmaceutical Manufacturing

1 General:

Extracts of equal or greater alkaloid content are obtained by using 60-70 per cent isopropyl alcohol instead of ethyl alcohol at equal strength when extracting belladonna, aconite, nux vomica, and cinchona according to reports by Lauwaet. We have used this alcohol in preparation of certain extracts where the solvent is ultimately evaporated, and find it very satisfactory.

For some time our tablet department has used this alcohol in place of ethyl in preparation of certain granulations. Our research and control laboratories use isopropyl alcohol as a complete substitute for ethyl alcohol in preparing laboratory reagents, standard and staining solutions, tissue section preparation, in washing precipitates, and in drying glassware. Such substitution has proven entirely satisfactory.

2. Products for External Application:

Many hospitals have used isopropyl alcohol for some time as an antiseptic for preoperative preparation by the surgeon and also on the field of operation. More recently it has come into wide use in rubbing compounds.

Several years ago we started using isopropyl alcohol in the manufacture of various skin antiseptic products. These products contain from 40 to 70 per cent of this alcohol and contain such other active ingredients as phenylmercuric nitrate, malachite green, and methyl violet. We have found such products to be completely satisfactory. Isopropyl alcohol has also been used satisfactorily for several years as an ingredient of one of our liniment products. Recently we have completed preliminary experiments using isopropyl alcohol in place of ethyl alcohol in Tincture of Iodine and have found such tincture to be almost identical with the official product insofar as physical properties and external use is concerned.

The odor of isopropyl alcohol is somewhat unpleasant to some persons. However, this odor can be satisfactorily covered by prefixation treatment or by use of perfume blends.

3. Products for Oral Administration:

In England, isopropyl alcohol has been used in preparation of certain food flavors. Boruttau reports this alcohol is satisfactory for use in mouth washes and that after several mouths use it was concluded that no harm need be feared from accidental swallowing of moderate quantities of such product.

To the best of my knowledge, the Food & Drug Administration has not allowed the use of isopropyl alco-

(Continued on page 48)

CIVILIAN HEALTH IN WAR

Deputy Surgeon General Warren Draper tells of health conditions on the home front during World War I and World War II, and tells what diseases have been brought under control.

COMPARING civilian health in World War I and World War II, Dr. Warren Draper, Deputy Surgeon General, U. S. Public Health Service states that the general death rate in this country in 1918 was 18.1, while for 1942 it is estimated at 10.4 per 1,000 population. While he states that this is a gratifying reduction, it has been achieved very slowly. Some serious threats to the Nation's health were dealt with in spectacular fashion and are not longer of concern, but others have not retreated, and still others have actually increased.

The great progress made in control of thyphoid fever and diphtheria by 1918 still resulted in a death rate from typhoid in that year which was at least 15 times as high as in 1943, and a death rate from diphtheria 25 times as high as it is today. Despite the disruption of civilian life due to the war, these two diseases have continued to decline since 1941.

In 1918, tuberculosis was third in the list of causes of death, while in 1943 it had dropped to seventh place, claiming about 4 lives in every 10,000. However, tuberculosis of the lungs remains the first cause of death among persons 20 to 45 years of age.

Pneumonia was the second most frequent cause of death in 1918, and this was not altogether due to the influenza epidemic, since pneumonia continued third among the causes of death until 1938 when the benefits of the sulfa drugs began to be felt. Practically all of the life-saving in pneumonia has occurred since 1926, but there has been no substantial reduction in the number of cases of pneumonia, as we have no preventative for mass application. The sulfa drugs cure but do not prevent.

Although malaria was not listed among the great killers during the last war, it was among the first ten causes of death in a number of the Southern States, and it was estimated at that time that 2,000,000 cases occurred each year. No concerted effort was made to eradicate the malaria mosquito in the South until 1935 when Federal funds were allotted for works projects in seventeen States.

Medical control of malaria is still far from perfect. Even if they had full supplies of quinine from prewar sources, we still would not have the "perfect drug." Suppressive doses of quinine or atabrine do not prevent malaria in the medical sense; they do prevent the relapses which play an important part in the spread of the disease. Both military and civilian health authorities are sponsoring a coordinated search for that drug—or drugs—which when found and proved effective, will revolutionize malaria control.

The ten leading causes of death in 1918 were, in the following order: Heart disease, pneumonia, tuberculosis, kidney disease, cerebral hemorrhage, birth injuries and other diseases associated with early infancy, cancer, accidents, diarrhea, and diabetes.

Diarrhea, principally affecting infants under two years of age, has dropped out of the picture as a leading cause of death, as have birth injuries and infant deaths. The year 1943 was the fourteenth consecutive year marking a decline in maternal mortality, an advance which has not been checked by the greatly increased wartime birth rate or the shortage of doctors, nurses, or hospital beds.

However, since 1918, diseases associated with old age have increased in importance as killers. Cancer, which was seventh on the list in 1918, is now in second place. Heart disease, which was in first place in 1918, is still in first place, and has actually increased in that time. Cerebral hemorrhage, kidney disease, and diabetes all have moved up a place or two on the list, and these chronic diseases cause a larger proportion of deaths than heretofore. The principal reason for this shifting of the causes of death is that, by reducing the number of deaths from diseases associated with infancy, childhood, and youth, a larger proportion of our population is living to ages when men and women are vulnerable to cancer, heart disease, and diabetes, and our medical knowledge of these diseases is not so complete as for the communicable diseases.

In a few short years, since 1936, sulfa drugs have revolutionized the treatment of a long list of infection: blood poisoning, childbed fever, septic sore throat, scarlet fever, pneumonia, and gonorrhea. Epidemic meningitis can no longer defy the efforts of public health and medicine, in the majority of cases sulfa drugs now prevent the once very probable death.

(*Continued on page 48*)

DRUG MATERIALS

WPB Drug and Cosmetic Chief Fred J. Stock tells of the picture for the raw materials for drug and pharmaceutical manufacturers.

WPB Drug and Cosmetic Division Director Fred J. Stock told the pharmaceutical manufacturers last month that the three most serious problems facing them are possible curtailment of supplies of paper and paper products, the container situation, and the manpower problem.

As regards the raw material outlook, Mr. Stock mentioned many items, giving in part the following information:

Sulfa drug production has been increased from 2,000,000 pounds in early 1942, to 10,000,000 pounds a year, with all military requirements being met, sizable quantities supplied under Lend-Lease, exports to South America increasing; sulfadiazine in liberal supply, sulfathiazole and sulfanilamide in good supply, and other minor sulfa drugs in adequate quantities.

The extraordinary expansion in production of the antimalarial, quinacrine, now provides a supply equivalent to at least five times the highest figure ever attained in quinine production. Quinidine, a minor cinchona alkaloid, is perhaps our most critical drug, and order M-131 has been amended so that quinidine may now be used only for treatment of cardiac conditions. Latin American cinchona bark contains only minute quantities of quinidine, and it is doubtful if any appreciable new supplies of quinidine can be obtained.

Vitamin A has become more critical within the last few months, but recent catches have been more encouraging. Vitamin D presents no problem. Thamine production has been greatly increased, but demands for military use, food enrichment, and Lend-Lease have been heavy and therefore unlimited supplies for medicinal purposes have not been available although the amount allowed for this purpose in 1943 was substantially more than was allowed in 1942. Riboflavin production has increased and no difficulty is anticipated in meeting pharmaceutical requests for this material. Nicotinic acid and nicotinamide are in limited supply, with the demand for nicotinic acid extremely heavy, and only limited quantities available for medicinal products. Nicotinic acid is the most critical of the vitamins, with nicotinamide in somewhat better supply but still likely to be limited for some time to come. Sufficient plants have been erected to meet requirements for these two vitamins, but unfortunately the coal tar derivatives, used as starting intermediates, have not been available in sufficient quantities, and it will be six months before supplies are ample. Increased production of ascorbic acid has made possible the meeting of all requests and it will remain in ample supply.

Caffeine and theobromine remain under allocation but supplies are ample to meet all medicinal requirements. Bismuth salts are also under allocation, with sufficient bismuth available for all anti-syphilitic preparations, but with other pharmaceuticals facing a substantial cut. Aluminum hydroxide or other agents should be used in the place of bismuth wherever possible.

The glycerine situation is much improved over that of six months ago, and pharmaceuticals will receive at least 100 per cent of their past usage. Sugar is easier and medicinal manufacturers are now receiving 110 per cent of the base period use, with no change apparent. Glucose is available and no difficulty is anticipated. Milk sugar will be in short supply because this material is used in the preparation of media for the growing of Penicillium Notatum. Pharmaceutical use of lactose may have to be curtailed.

Alcohol supplies remain limited and urgent new military demands prevented additional supplies being obtained for the drug industry in the fourth quarter of 1943. The recent amendment to alcohol order M-30 did not increase the supply of alcohol to any user, it merely increased to 7,900 gallons the amount which a user could certify to his supplier without specific approval of WPB.

Phenol supplies have eased so that all quantities of phenol, as such, for use in medicinals can be met in full. Increased quantities of phenol have been made available for production of aspirin and other salicylates, and all salicylate plants are now working at capacity, so that in a few months the salicylate supply situation should ease.

Magnesium oxide light has become critical due to its urgent use in the compounding of synthetic rubber. However, several expansions of production are under way and the situation should improve in about 90 days. In the meantime it should be possible to meet all pharmaceutical requirements with the exception of milk of magnesia.

GLASS CONTAINER ORDER

The new WPB glass container order has finally been signed and is designated as WPB Order L-103-b. The order controlling closures is WPB Order M-104, which has also been rewritten. Drug manufacturers are allowed containers and closures to the extent of 100 per cent of 1943, except that some products are given unlimited quotas. Aluminum closures may be used on drugs to the extent that the manufacturer used them on the same products in 1941. Certain drugs are restricted to blackplate and others may use tinplate.

Cosmetic manufacturers are allowed 100 per cent of the new glass containers which they used in 1943. On face creams, hand creams, vanishing creams, deodorant and anti-perspirant creams, and cream rouge, they are allowed blackplate for 85 per cent of their containers. They are only allowed 50 per cent of blackplate closures for deodorants, anti-perspirants, shampoos, hair tonics, hair dyes, wave solutions, hair rinses, oral antiseptics, tooth pastes, tooth powders, liquid dentifrices, aftershave lotions, liquid soaps, perfumes, toilet waters, face and hand preparations, lotions, and fingernail preparations. For hand soaps and shaving creams they are allowed 100 per cent of both containers and blackplate closures compared with 1943.

"Cartels" To The Fore

(*Continued from page 39*)

to quantity production of aircraft engines; and a new plastic—polythene—which has gone into the production of new electrical items urgently needed by the Army and Navy; not to mention rayon, dyes, cellophane, "Zelan" water-repellent for military apparel, and many other chemical products, all improved and perfected here but stemming originally from abroad. Nor has mention been made of the fact that the information obtained has lessened certain lines of research, releasing our chemists so they may concentrate on unexplored and promising fields.

"Surely it cannot be the policy of the Department of Justice to attempt to prevent the continuance and expansion of such immensely beneficial arrangements, which have been a common practice in American industry. But if such be the policy, the du Pont Company asserts that it will defend its previous course of action in this regard, firmly believing such action to be in the public welfare and in the interest of national defense.

"The existence of the agreements which are the subject of the present attack has never been concealed. Copies have been in the possession of Government agencies for approximately 10 years. They have been before several investigatory committees of Congress. They have been the subject of comment in company statements. With the Government having had full possession of these agreements over a considerable period of time, the action of the Department of Justice at this particular time in our war effort is difficult to understand."

Isopropyl Alcohol in Pharmaceuticals

(*Continued from page 45*)

hol in pharmaceutical products intended for oral administration. However, in view of the pharmacological work which has been reported and the fact that, in most instances, the actual quantity of alcohol consumed in average dosing is quite small, it would appear that the use of isopropyl alcohol in such products would be entirely safe and satisfactory. It only remains for someone to file a new drug application with complete pharmacological and clinical data on such use.

Conclusions

Isopropyl alcohol has advantages over ethyl alcohol in that it has lower surface tension, greater fat solvent action, more rapid killing power on many bacteria, and is free from burdensome governmental control and taxation.

Isopropyl alcohol has been found to be a satisfactory and complete substitute for ethyl alcohol in the preparation of extracts where the solvent is ultimately evaporated, in the preparation of tablet granulations, in pharmaceutical products intended for external use, and in laboratory reagents, standard solutions, and staining solutions.

In view of the pharmacological experimental work which has been reported and the fact that, in most instances, the actual quantity of alcohol consumed in average dosing is quite small, it would appear that the use of isopropyl alcohol in many pharmaceutical products for oral use would be entirely safe and satisfactory.

Civilian Health In War

(*Continued from page 46*)

The future triumphs of chemotherapy cannot be predicted. The discovery and use of penicillin by Dr. Alexander Fleming and Dr. Howard Florey has opened a new field of research and accomplishment in the life-saving services.

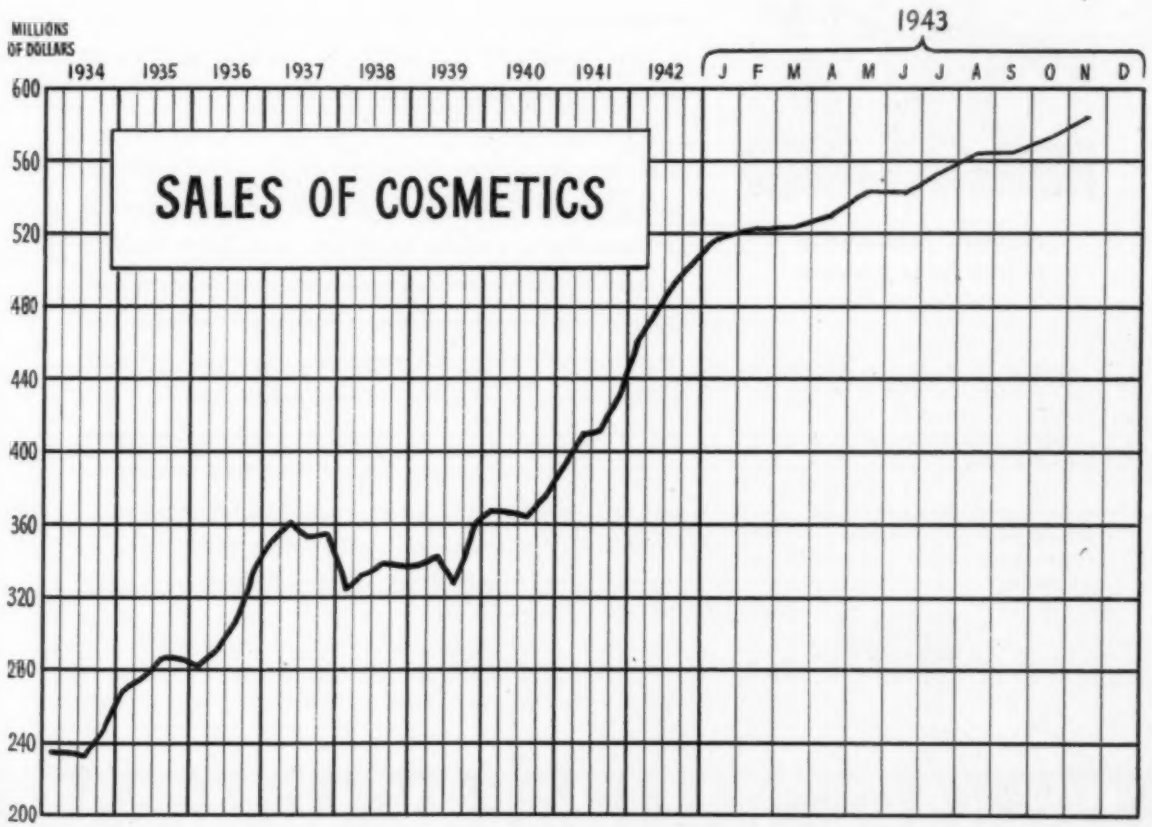
Our national effort to wipe out syphilis has been strengthened by new methods of treatment which greatly shorten the traditional methods. All but the most stubborn cases of gonorrhea now respond to the sulfa drugs in a week's time, and penicillin is successfully used in resistant cases as well as in the average case. Thus the venereal diseases can be wiped out in a few years time.

By means of mass chest X-ray examinations and prompt treatment of active cases, tuberculosis can also be reduced to a minimum. Much can be accomplished in restoring to health persons afflicted with chronic diseases and other disabling ailments which cannot be prevented.

MERCHANDISING NEWS and PACKAGING NOTES

Lipstick Containers

The past month has been full of alarums and excursions concerning the possibility of getting some metal lipstick containers. It all started when it was announced that the War Production Board was releasing steel for lipstick holders. This was followed by a search by the Smaller War Plants Corp. for qualified makers and the subsequent issuing of a list of such manufacturers. A qualified maker in the sense in which the word is used here was not necessarily one who had previously made lipstick holders. In fact several of the largest pre-war suppliers were unqualified because their lipstick container equipment was located in plants which were in critical labor areas. Hence the chief requisites to qualify resolved themselves into having a labor supply and the willingness to try to make holders from blackplate. For, while it was obvious that some of the plants listed had labor, equipment and even tools, it seemed apparent that many of them would find a first obstacle and perhaps an insurmountable one in getting proper tools made for the job. For even assuming that WPB got them



Sales of cosmetics for the twelve-month period ended November 1943 totaled $584,411,000, an increase of $10,897,000 over the $573,514,000 reported for the twelve months ended with October 1943.

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THERE are parts of your post-war plans that can remain largely in the blue-print stage till the war is won... But there are other things that call for action now, if you don't want to be caught at the end of the line.

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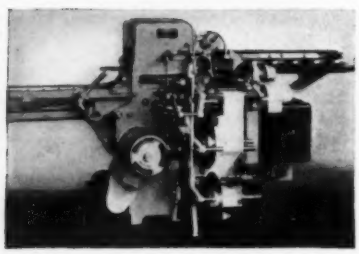
We'll be glad to study this subject with you — no obligation, of course. Write or phone our nearest office.



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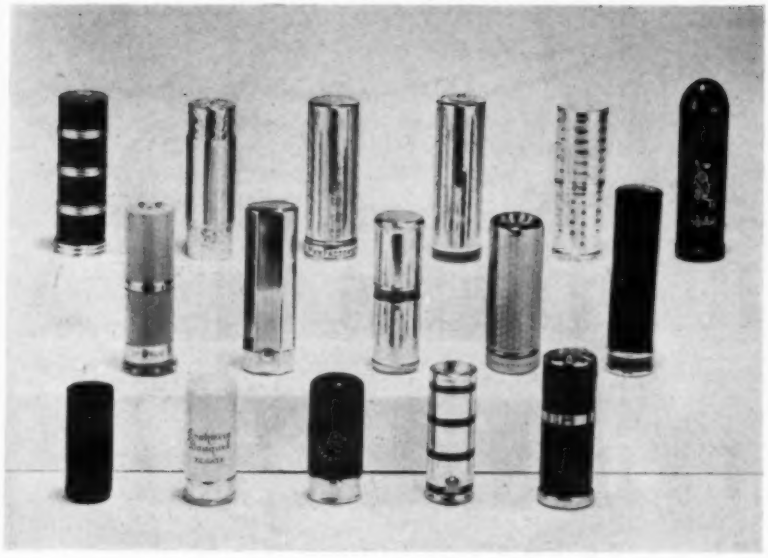
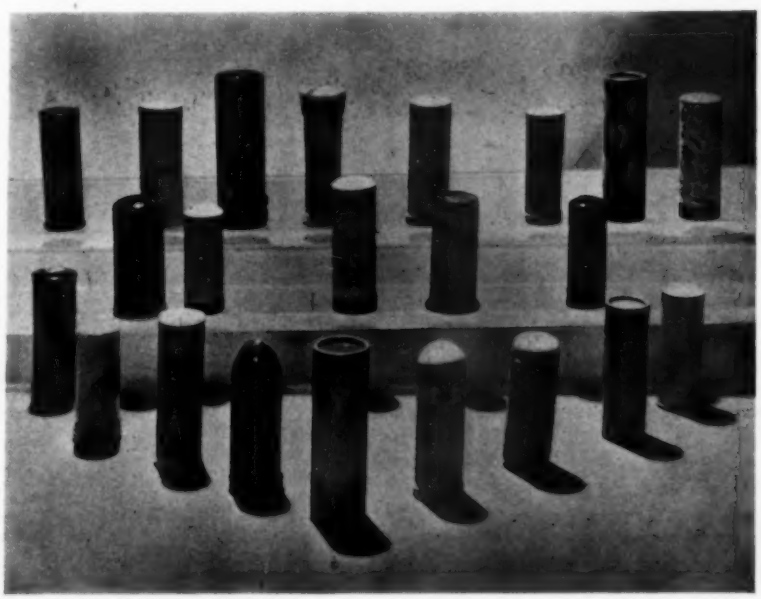


some metal, would or could the WPB get them tools, to say nothing of various finishing lacquers and enamels which are also subject to priorities and hard to get. In other words, there was much more involved in making lipsticks than simply having some steel and a willingness to make them.

The difficulties involved are best illustrated by the experiences of one maker who had manpower, capacity and experience as well as a metal supply. He had been left with a quantity of good steel plate as a result of a government contract cancellation so he was interested when the SWPC asked him if he would make sticks. He had tools or could get them for making a simple push-up type holder and so he made plans for one in a stock, standard design and got in touch with cosmetic manufacturers who were looking for this type of stick. At the same time he had to make certain that he was free to use the steel which he had on hand for this purpose. However, before his plans had developed to any extent the whole problem became academic, for the government contract was reinstated thus leaving him without metal and temporarily, at least without the capacity to handle lipstick business. He still plans to offer a push-up model when he can and if the interest is still there and he can get the dies and equipment and the metal and the lacquers, he will go ahead.

At about the same time, another maker was moving equipment into a non-critical labor area so that he could have a go at making metal lipstick containers. This maker had turned these holders out before but his particular effort now was apparently going to be to make them out of the blackplate, something which he had not done before. This meant that he might be going to turn out a folded stick instead of a drawnout stick. For blackplate is most easily handled with the same type of process used for making tin cans, for it is not a high quality steel which will stand the deep drawing which is characteristic of previous processes for making metal lipstick containers. This means that there will be some lag in his getting into production while he experiments with new processes, new tools and new equipment as well as with labor unused to handling blackplate.

At this stage of the proceedings, one of the largest pre-war manufacturers found that the labor situation had eased sufficiently in his district to warrant its reclassification as a less critical labor area. Under these conditions, he felt that resumption of lipstick case manufacture might be permitted to a degree that would not interfere with war work. He was still working on war orders and while the war continued he felt that he should continue to do his part. On the other hand, he had a large stake in the lipstick business and he felt that he could not stand idly by while others, new and unused to lipstick container manufacture were being encouraged to enter the field. He also felt that any blackplate operation was doomed to unending difficulties and delays, if not to eventual failure and, while he did not say so, it seemed apparent that, if he found that he could use some equipment and labor for a resumption of his regular business, he would probably prefer to base his plans upon possible released inventories of a more suitable metal—a good grade of steel, brass or perhaps aluminum. When this might happen is anybody's guess but the present trend appears to be to encourage some degree of planning, preparation and even manufacture of peacetime products. Metal has already been released for the manufacture of bobby pins, for example, and it seems inevitable that lipstick metal will also be available this year. The big question is how soon and even those in closest touch with the situation refuse to hazard a guess as to the date although



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The Cosmetic Trend

Widely discussed these days in buying offices is the question of what will be the best price assortment to answer the changing incomes of the war-time customers. Obviously this idea that every man and woman approaching the counter, has an overflowing pocket-book is not supported by fact, once the customer has started to make a selection. On the other hand, there are doubtless many customers who can pay more than they have in the past. What bothers buyers is whether they should carry a larger proportion of less than medium priced goods, in the expectation that they can sell more units, or "weight" the assortment in favor of higher priced quality goods, because customers will want them.

In favor of the first plan it is quoted that approximately 46% of all the spending during next year is going to be done by income earners between $1,000 to $3,000, according to U. S. Treasury estimates and only 18% by those, earning from $3,000 to $5,000. This places volume still among the groups of customers who have spent below the dollar level in the past. It makes buyers think that the average sales ticket of the department store toilet goods counter may not be much above that figure. Yet, there is no denying that the value of the average sale has steadily increased since the war and a fifteen to twenty per cent increase may still be expected during the new year. Most buyers feel that a 25% increase of the stock in the medium price levels may be justified, with a corresponding lowered emphasis upon the lesser priced lines. Much depends upon the character of the article. In many cases the higher levels may be due rather to a stepping up of the size of the package than the quality of the contents. "Economy packages," doubtless, find more attention these days because customers can afford to buy the larger quantity and prefer to do so as a time-saver.

While the fashion appeal of the cosmetic seems to be upon the wane, because of restrictions upon the use of colors, etc., there remain, nevertheless, very noticeable demand-waves in such more prosaic articles as protective creams and lotions, hand cleaners, etc. These result either from a well chosen advertising claim or, more frequently, the mouth to mouth recommendation of women workers in large factories in support of one or the other outstanding product. These outbreaks of sudden popularity appear spontaneously and, in many instances, seem to remain confined to a few districts only. In any case, they show that the manufacturers of war-occupational cosmetics are missing a bet if they do not push their utility products as effectively as they have supported their more glamorous articles in the past. It should be understood that counters generally hesitate recommending cosmetics of the occupational type but are always ready to get behind a good seller for which there is a definite demand.

After two years of war, buyers remain confident that there will not be any marked let-down in the demand for cosmetics. While, admittedly, there have been periods of scarce-buying, carrying with them the prospect of a later sales decline, these declines have not materialized, or, their effect upon the all-over sales volume was neutralized by the growing interest of the consumer in groups of cosmetics that were neglected during the various rushes. Customers remain indifferent to package changes and there is no apparent decline in the appearance of the counters from this source. The real difficulties, facing most stores today, is not the merchandise but rather growing lack of trained help. Anything that manufacturers can do to relieve it by suitable show cards, informative labels and well planned advertising will make their products more welcome to the stores. It is a good plan not to rely too much upon an old established name, in the hope that the sales woman will give it her support. In ninety out of one hundred cases she will be a newcomer, willing, but with only superficial knowledge of the goods upon the counter.

their attitude indicates that they hope it may be fairly soon, say six to eight months.

In the meantime, other lipstick case manufacturers are still restricted by their labor classification. This brings up the whole subject of reconversion and the problems involved in it as illustrated on this small scale. These manufacturers who still remain in a critical area are told, in effect, that theirs is a large and important contribution to the war, that they cannot be spared from war work. At the same time, it seems to them as if they are being penalized for their importance to war manufacture by having new competition encouraged to enter their field while they are prohibited from it. First things come first, and the first thing is to win the war. But quite understandably they do not wish to be left at the post as the barrier is sprung for the post-war race. The reconversion problem is unbelievably complex as this brief view of it makes apparent and it is one which bids fair to tax the nation's best efforts to an even greater extent than did the conversion to war.

The other thing which stands out is the rapidity with which the situation can change. This story was one thing one day and an entirely different story the next day. It may well have changed again by tomorrow or by the time it appears in print. The thing to bear in mind is that the blackplate release for holders, whether it ever amounts to anything or not in terms of quantities of delivered sticks, was the first encouraging sign in at least two years. There are certainly many delays and obstacles yet to be faced, and even when the green light is fully on there won't be all the metal cases everybody wants overnight. But the road has definitely turned and the metal lipstick case is no longer just a remote hope in some dim, distant future.

Cake Make-Up

One of the chain stores reports that cake make-up is currently the best-selling item in the cosmetic department and that women buy about 10 of the cake to one of the cream bases. Max Factor is still by far the best seller. This make-up is purchased chiefly by girls and young women. Chief complaints come when cakes are gritty, or streaky. Some crumble around the edges. In one month this chain sold some 18,000 pieces or over $20,000 worth of cake make-up.

ETHYL BROMIDE

A valuable chemical intermediate

• Ethyl Bromide is an economical ethylating agent in the synthesis of Barbituric Acid and its derivatives. The manufacturer of vitamins and other organic chemicals has found that Dow Ethyl Bromide is a dependable intermediate in organic synthesis. It is a clear, colorless, volatile liquid with a pleasant odor and uniform properties.

PROPERTIES

Specific gravity at 25/25° C.	1.424
Pounds per gallon at 25° C.	11.85
Boiling Point	38.4° C.
Freezing Point	—119° C.
Flash Point	None

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN
New York Philadelphia St. Louis Boston Washington
Cleveland Chicago Houston San Francisco Los Angeles Seattle

PHARMACEUTICAL *Chemicals*

DOW
CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

Another source agrees that women under 30 are the chief purchasers of cake make-up. This source says that the cakes sell about one to five to one to eight for face powder and that the wholesale volume runs from six to seven million dollars. Max Factor gets about 75 per cent of the business, Elmo about 15 per cent, and Solitaire, du Barry and Angelus about 5 per cent among them, according to this source.

The drying effect of the cakes is pretty well agreed upon and that is perhaps the reason that the younger women are by far the best customers. Some of the competition is stressing this angle very strongly. Harry T. Johnson, vice-president of Delettrez, for example, says that, "The latest vogue in foundations is for the wet cake type, but we believe that this type is due to go. In fact, we believe that the indiscriminate use of cake make-up may be harmful, especially for the dry skin. Although we make a very good foundation of this type, we recommend it only for the young, oily skin . . . "

Cream Cologne for Mass Market

Not many cream colognes have made their appearance in the mass market for one reason and another, so it is news that Jergens presents its Morning Glory fragrance in cream cologne in two sizes to retail at $1.00 and 25 cents. The fragrance is the same as the alcoholic cologne, but the cream cologne serves a double duty, that of scenting and also softening and smoothing. The same familiar Morning Glory flower design trails its colorful way about both bottle and carton. This venture of Jergens into the 25 cent cream cologne field will no doubt help to establish cream cologne in the syndicate store field.

Kiss and Tell

Imagine a new cologne coming under the heading of news! But, "Kiss and Tell," introduced for the holidays by Manson Distributors of Chicago, was news since here was a newcomer with cologne when the old-timers had none to offer. Kiss and Tell comes in clear cologne and creme, four ounces for $2.50, and is attractively packaged in a modernistic bottle with a large wooden stopper. It was intriguingly described in ads as "A revealing cologne . . . as new as the first blush of morn. Kiss and Tell has a song in its heart . . . a meaningful scent . . . a delicate balance in its incorrigible sparkle for the merry and wise . . . its subdued elegance for the angel-like . . . " (How come Westbrook Pegler passed this one up?)

Paper Caps

Daggett & Ramsdell is using a new paper cap on its eight ounce jar of Perfect Cleansing Cream. This cap will be used only on the half-pound jars of cold and cleansing creams, which regularly sell for $1.00, but will be sold at 69 cents for the regular March promotion. The paper cap has an attractive appearance and works easily and well. Daggett & Ramsdell appears to be among the first in the cosmetic industry to make use of the wide-mouth paper cap.

Paper caps, in a smaller diameter are also being used by Pond's. This cap is also constructed entirely of paper but by a different maker and a different process than that used on the D & R cap. At present it is manufactured in 58 and 63 mm. sizes, although a 53 mm. size is in the works.

According to Perma-Seal, maker of this latter cap, "all parts of the closure are thoroughly impregnated with a specially processed wax and they are then formed in automatic presses,

which were developed especially for the job in our plant. This closure functions in actual production exactly as does a metal or plastic closure. It can be applied either by hand or automatic machine. It can be readily unscrewed by the user and then reapplied quite tightly to protect the contents remaining in the container. The closure can be removed and replaced as many times as may be necessary.

"It should be understood that this is a war time product designed and manufactured with one intent—that of performing a job efficiently with reference to its use on an automatic sealing machine or hand operation performing a seal on the jar. The method of construction results in a thread that will not break away or permit expansion of the closure.

"The post-war product will be a fabricated two color plastic cap—the color combination to be selected by the customer. Also, the name or trademark will be embossed on the top. So far, however, because of the allocation of plastic to the war effort, manufacturers are confining their product to a paper closure."

Anchor Hocking invites you to...

"MEET CORLISS ARCHER"

America's most amusing radio show... devoted to the sale of fine glass and fine products packed in glass

Bright, bubbling...unpredictable, irrepressible...that's Corliss Archer, the funniest fifteen-year-old who ever came down the pike...a bit wobbly in those first high heels. A forthright and devoted swain... that's Dexter, whose pet expression, "Holy Cow," has become part of America's vocabulary. Happy, heart-warming, irresistible..."Meet Corliss Archer" is the everyday, down-to-earth story of a typical American family.

One of the most entertaining programs ever broadcast, "Meet Corliss Archer" goes on the air for Anchor Hocking every Saturday afternoon over every station in Columbia's full coast-to-coast network... bringing home to a tremendous national audience the advantages of glass...and products packed in glass.

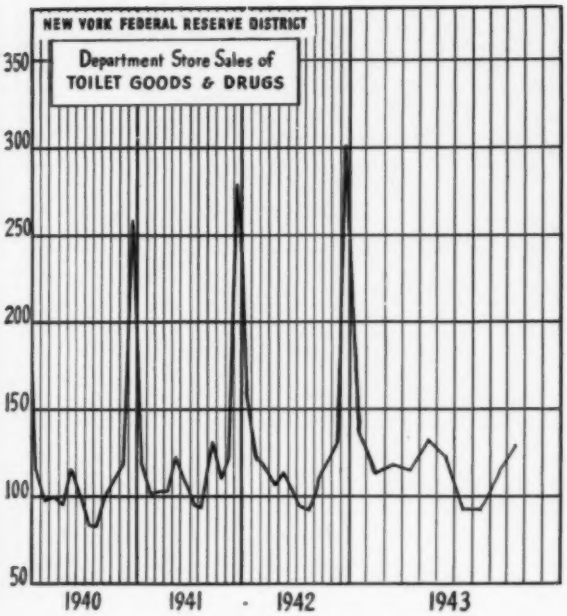
Tune in every Saturday. We know you'll like the show...we think you'll be interested in the commercial message which it carries.

Anchor Hocking Glass Corporation
Lancaster, Ohio

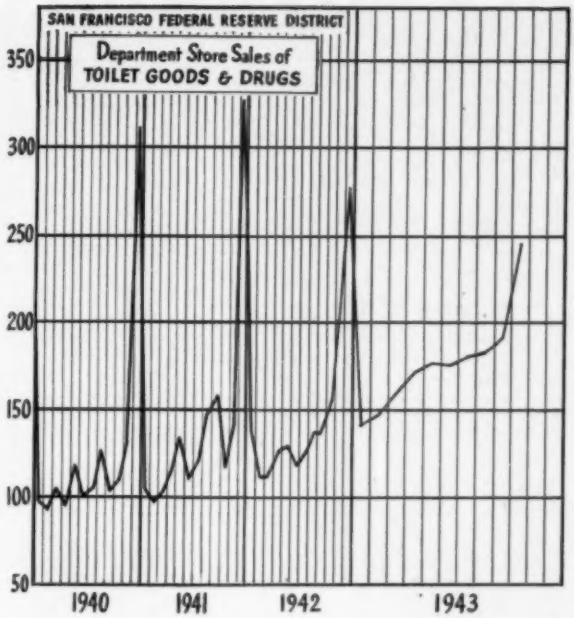
starting January 8th and every Saturday afternoon thereafter

CBS

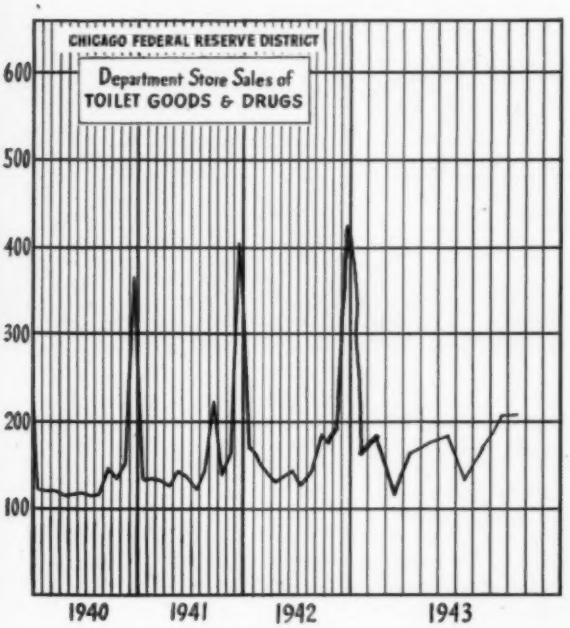
entire coast-to-coast network.



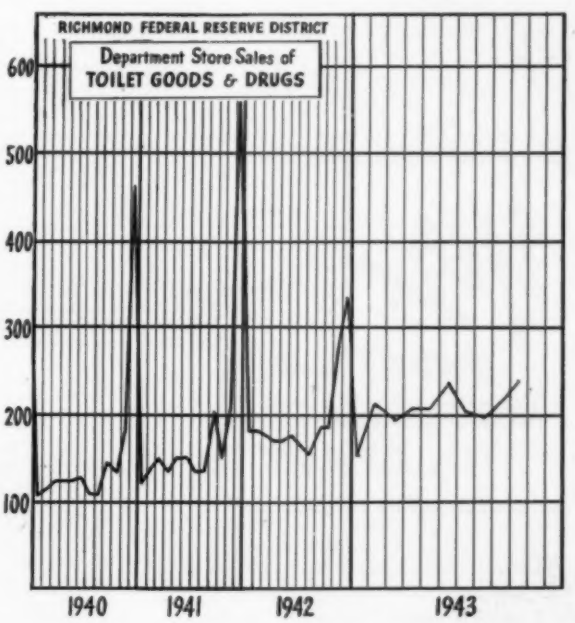
Sales of toilet articles and drug sundries by department stores in the New York Federal Reserve District increased in October 1943 as compared with October 1942. This corresponds to unadjusted index numbers of 129.1 for October 1943; 115.0 for September 1943; and 120.7 for October 1942.



Sales of toilet articles and drug sundries by department stores in the San Francisco Federal Reserve District were greater in October 1943 than they were in October 1942. This corresponds to unadjusted index numbers of 245 for October 1943; 192.5 for September 1943; and 158.1 for October 1942.



Sales of toilet articles and drug sundries by department stores in the Chicago Federal Reserve District were greater in October 1943 than they were in October 1942. This corresponds to unadjusted index numbers of 208.4 for October 1943; 205.7 for September 1943; and 172.0 for October 1942.



Sales of toilet articles and drug sundries by department stores in the Richmond Federal Reserve District were greater in October 1943 than they were in October 1942. This corresponds to unadjusted index numbers of 239.4 for October 1943; 218.6 for September 1943; and 187.1 for October 1942.

MADE WITH WATCHMAKER'S CARE

Yes THERE'S A DIFFERENCE IN GLASS

MOST people regard a watch as just about the last word in skillful, precise workmanship. But what surprises many—even those familiar with glass—is to learn that the glassmaker is a precision worker, too. He uses the same care as the watchmaker in keeping his product within required limits of measurement.

In the manufacture of side-seal finish jars, for example, the accuracy of Armstrong's moldmakers is just as important, tolerance-wise, as in the making of a fine watch. For this type of finish demands finest workmanship if it is to be sealed adequately.

Most glass craftsmen take a watchmaker's pride in meeting tolerance requirements—a difficult thing to do when materials are worked at high temperatures, where even the *slightest* temperature change can make a tremendous difference. And Armstrong strives for an especially high degree of exactness in such details as the finish, because accuracy here helps to assure a tight seal. Accuracy is just one of the many, though often unappreciated, qualities of fine glassware. Others include thermal shock resistance, distribution, degree of brilliance, clarity, and so on.

Individually, these qualities may not always be important. But, added together, they make a big difference in the ware you buy—the difference between good glass and the best. That's why we say, "There *is* a difference in glass."

For the complete story of the skills and facilities that contribute to the making of top-quality glassware, send for your free copy of Armstrong's new booklet, "Men and Glass." Write the Armstrong Cork Company, Glass and Closure Div., 3801 Prince St., Lancaster, Pa.

ARMSTRONG'S GLASS

and **ARMSTRONG'S CLOSURES**

NEWS

Companies

Earl Means to Retire

After thirty-seven years of service in the sales department of Bristol-Myers Co., which he has headed for the past thirty years, vice-president Earl A. Means is retiring March 1, 1944, from active management and supervision of the department. A new post of honorary chairman of the board is to be

EARL A. MEANS

created for him. In this capacity, his sound advice will remain available to the company.

The new vice-president in charge of sales will be Joseph P. Hardie, who for the past thirteen years has devoted his entire time to the Bristol-Myers accounts handled by Pedlar & Ryan—Ipana tooth paste, Mum, Ingram's shaving cream, D-D tooth brushes and Vitalis. His duties as account executive and vice-president of the advertising agency have brought him into daily contact with the Bristol-Myers organization.

Mr. Means first joined Bristol-Myers Co. in 1906 as a young salesman of twenty-nine when headquarters were in Brooklyn. The company then had only recently changed its corporate name from the Clinton Pharmaceutical Co. to Bristol-Myers in commemoration of the lifelong partnership of two Hamilton College friends who had started the business in a second-story laboratory and office in Clinton, N. Y., less than twenty years before.

Mr. Hardie was born in New York. He attended preparatory schools in Texas and Virginia and later Williams College. He spent several years with the Guaranty Trust Co. and Redmond & Co. and as assistant to the vice-president in charge of sales of Simmons Co. before joining the advertising agency of Edwards, Ewing and Jones, later changed to Ewing, Jones & Higgins, where he spent five years, winding up as assistant treasurer in charge of the New York office. In 1931, Mr. Hardie joined Pedlar & Ryan, Inc. as account executive. Later, he was made vice-president and served on the plans board and operating committee until his decision to join the executive staff of Bristol-Myers succeeding Mr. Means.

Syntomatic Corporation Formed

Syntomatic Corporation, importers and manufacturers of essential oils, aromatic chemicals and perfume specialties, 114 East 32 St., New York, has been formed by Irving Bennett and Dr. Victor G. Fourman. Dr. Fourman is president of the corporation, and Mr. Bennett is vice-president.

VICTOR G. FOURMAN

Dr. Fourman, who resigned December 1, 1943 from Compagnie Parento, with which firm he had been associated for many years as chief chemist, received his doctorate in chemistry at Columbia University where he carried out research work on many perfume aromatics and on catalytic dehydration. He was a Research Fellow of the American Manufacturers of Toilet Articles, and at one time he was research chemist for Dermatological Laboratories of Philadelphia. He has contributed many articles to scientific and trade journals on the chemistry of perfume and cosmetic materials. He has a wide acquaintance in the industry, both here

IRVING BENNETT

and in Europe where he spent a number of years in travel and study. He is a member of the honorary scientific Society of Sigma Xi and a member of other scientific organizations.

Mr. Bennett, who also resigned from Compagnie Parento December 1, 1943, after many years association with that firm as sales manager, is well known for his selling abilities in the essential oil and aromatic chemical field. He began his career in this industry in 1922 with the late Dr. Szamatolski, who headed the Standard Chemical Company and who pioneered in some of the basic outstanding aromatics of the present day. When this company was merged with Antoine Chiris Company, Mr. Bennett took charge of their Canadian house, later returning to the United States to become sales manager for the United States and Canada. In 1934 he joined Compagnie Parento as sales manager. He has traveled extensively throughout Europe and the United States in his activities with the industry, bringing him a thorough knowledge of the aromatic requirements of the perfumery, cosmetic, soap, and allied manufacturers.

LABORATORIES

1944 holds rich promise.
It is our fervent hope that we may soon again serve you under the banner of peace.

Kolmar

Rouge - Powder - Lipstick - etc.

Milwaukee · Newark

Manufacturers of private label brands only.

Representatives

Mr. M. C. Boyd,
Quinby Building, Newark, N. J.

Mr. Douglas Haggerty,
122 E. 42nd St., New York City

Mr. Warren Curry,
2504 Alton Road, N. W., Atlanta, Ga.

Mr. Norman Kole,
980 Merchandise Mart, Chicago, Ill.

Mr. R. F. G. Byington,
1260 N. Western Ave., Los Angeles, Cal.

Mr. Richard F. Spicker,
419 West Fifth St., Cincinnati, Ohio

Berg Advanced by Squibb

F. F. Berg has been appointed general superintendent of the Brooklyn Laboratories of E. R. Squibb & Sons. In the twenty-three years since he joined Squibb, Mr. Berg has headed all of the manufacturing departments in turn. He was born in Colorado Springs and began his career in a drug store there. He attended the St. Louis College of Pharmacy, receiving his Ph.S. in 1914 and his Ph.C. in 1917. During World

F. F. BERG

War I he was a second lieutenant in the sanitary corps, medical department.

Mr. Berg has represented Squibb on the pharmaceutical contact committee of the American Drug Manufacturers' Association since its inception in 1924. He has served as chairman of the scientific sections of both the American Pharmaceutical Association and the A.D.M.A. More recently he was appointed a member of the industry advisory committee on dentifrices of the War Production Board.

Katz Joins Volupte

M. K. Katz, formerly sales manager of Helena Rubinstein Inc., has resigned to become vice-president and sales manager of Volupte, Inc. Mr. Katz joined the Rubinstein organization in May 1938 after having been vice-president and sales manager of Supremacy Products, the wholesale subsidiary of R. H. Macy & Co. Previous to that he was merchandise manager of various departments at Macy's including toilet goods and cosmetics.

Moffett Drug Takes Larger Space

Elias Malkin, president of Moffett Drug Co., Inc., has announced that the company which supplies private label drugs and vitamins to drug and department stores has moved its offices to considerably larger quarters on the tenth floor of the building at 347 Fifth Ave., where it has been located for some time.

Parento Under Direction of Barton

Compagnie Parento, Inc. is now under the direction of E. C. Barton, vice-president and general manager of the company. Mr. Barton, who has been with Parento since 1927, went to Canada in 1932 to establish Compagnie Parento,

E. C. BARTON

JOHN M. QUIGG

Ltd., with offices in Toronto. In July 1943, Mr. Barton returned to this country to assume active management of the American and Canadian divisions of the company.

John M. Quigg is managing director of Compagnie Parento, Ltd., Toronto, having been associated with the Canadian division of Parento since its inception. He was graduated from Regina College, and was associated with a firm of analytical chemists before his association with Parento.

Karrh Joins Publicker

John Karrh has joined the staff of the development and new chemicals division of the Publicker Commercial Alcohol Co., and has been made plant manager of the new butadiene plant, at Eddington, Pa., construction of which is nearly complete.

Mr. Karrh was graduated from the University of Alabama with the degree of chemical engineer in 1928 and for the past fifteen years has been active in both the production and sale of chemicals.

Virgil D. Drummond has been appointed chief chemical engineer of this division of Publicker Commercial Alcohol Co.

National Aniline Transfers Flett

Lawrence H. Flett has been transferred from the Buffalo plant to the sales department of National Aniline

LAWRENCE H. FLETT

Division, Allied Chemical & Dye Corp. and will be located at the executive offices, 40 Rector St., New York.

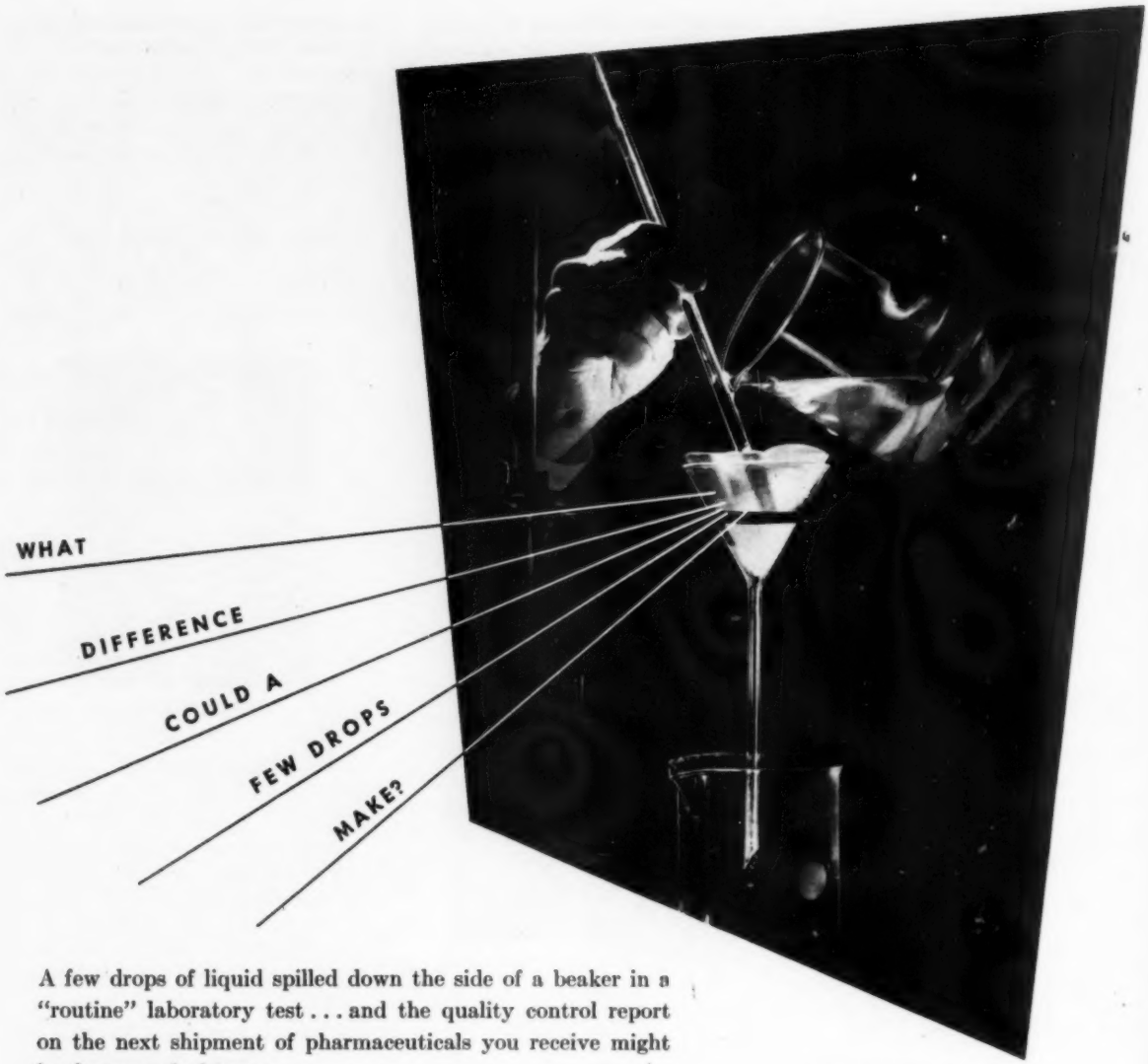
In his new capacity of director of new products division, Mr. Flett, who holds the Schoellkopf medal for his work on Nacconol, National synthetic detergent, will afford specialized technical research service to National's customers.

Standard Brands Buys Strong Cobb

James S. Adams, president of Standard Brands, Inc., has announced that the company has purchased all of the stock of Strong Cobb & Co., Inc., Cleveland, one of America's pioneer pharmaceutical manufacturing houses which was established in 1833. Strong Cobb & Co. was instrumental in developing Stams and Stan-B, the vitamin tablets which are sold through drug channels by the pharmaceutical division of Standard Brands Inc.

George Miller, president of Strong Cobb, will continue to operate the company. The organization will remain intact and will continue the company's long-time service to the pharmaceutical industry.

Mr. Adams also announced that Standard Brands Inc. has acquired the outstanding stock of the Shefford Cheese Co., Inc., of Green Bay, Wis., a wholly owned subsidiary of Kingan & Co., Inc., of Indianapolis.

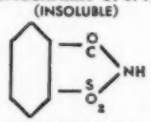


A few drops of liquid spilled down the side of a beaker in a "routine" laboratory test . . . and the quality control report on the next shipment of pharmaceuticals you receive might be dangerously in error.

Few operations in all industry are governed as completely by precise, automatic controls as the production of fine chemicals and pharmaceuticals. Yet few are as dependent on the skill and painstaking accuracy of the men in control.

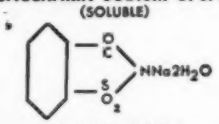
That's why Monsanto's control laboratories are staffed by highly skilled chemists, trained alike in fundamentals of good laboratory practice and the latest analytical techniques. And that's why you can be sure of *controlled* quality in *every* shipment of *every* Monsanto pharmaceutical that reaches your plant. MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, St. Louis, Missouri.

SACCHARIN U. S. P.
(INSOLUBLE)



Mol. Wt.: 183.11
Standard Form: powder.
Specifications: White crystalline powder; assay 98.0% min.; m.p. 227.0°C. min.; loss on drying, 0.50% max.; solubility in 10% Na_2CO_3 (1:5), complete.

SACCHARIN SODIUM U. S. P.
(SOLUBLE)



Mol. Wt.: 241.13
Standard Forms: granules, powder.
Specifications: White crystals or powder; solubility in water (1:8), complete. Loss on drying at 125°C. granules, 14.00% min. —14.35% max.; powder, 5.3% min. —5.8% max.

MONSANTO CHEMICALS
SERVING INDUSTRY...WHICH SERVES MANKIND

Philip A. Rising Retires from Pfizer

Philip A. Rising, manager of the Chicago branch office of Chas. Pfizer & Company, and a director of Pfizer, retired from active service with the company at the close of 1943, although he continues as a director of the company. Mr. Rising has served Pfizer for forty-five continuous years, joining the company in 1898. He was appointed manager of the Chicago branch office in

PHILIP A. RISING

1909, and was elected a director of the company in 1934.

Mr. Rising has long been active in the affairs of the drug and chemical industries, and over the years has acquired an extremely large number of real friends who were attracted by his charming personality and fine character.

Norman A. Grimm, who joined Pfizer in 1914 and who served as assistant manager of the Chicago branch for the last ten years, assumed management of that office on the retirement of Mr. Rising.

Pillet Joins Tombarel

Alphonse Pillet, formerly of Du Pont Aromatics, has joined Tombarel Products Corp., New York, as technical adviser and special representative. Mr. Pillet, a native of Switzerland, came to this country in 1925 as perfumer for Rhodia Chemical Co. He remained with the company when it was taken over by the Newport Chemical Co. and when Newport was absorbed by E. I. du Pont de Nemours & Co.

Fallek Offers Menthol

Fallek Products Co., New York, has announced its appointment as United States distributor of menthol and mint oil for the largest Brazilian manufacturers. Shipments are handled in collaboration with Fallek Products Company's own branch office in Sao Paulo.

Honorary luncheon given to Philip A. Rising by the Friends of Drugs and Chemical Industry, Chicago.

Bristol-Myers Changes

Two year-end personnel changes were announced by Henry P. Bristol, president of Bristol-Myers Co. J. W. Brooks, general manager of Harris Laboratories in Tuckahoe, N. Y., was elected by the board of directors vice-president of the company in charge of Harris Laboratories division; and Raymond R. Leonard, director of personnel for Bristol-Myers plant in Hillside, N. J., for the past year, assumed new responsibilities as assistant to William M. Bristol, Jr., vice-president in charge of production. Mr. Leonard continues general supervision of the personnel work at Hillside.

Mr. Brooks has been with the company since 1911. He represented the firm in the sales field for eighteen years before becoming branch manager in Chicago in April 1929. In June 1941 he was made assistant sales manager of Bristol-Myers in New York, and in October 1942 was put in charge of the newly acquired Harris Laboratories division. He was born in Royalton, N. Y.

J. W. BROOKS

and received the degree of Doctor of Pharmacy from the Philadelphia College of Pharmacy in 1910.

Mr. Leonard was born in Boston and was graduated from Bowdoin College in 1931. He earned the degree of L.L.B. in 1937 at St. John's University in Brooklyn after a brief period as financial reporter for Dun and Bradstreet in 1931-32. For ten years prior to joining the staff of Bristol-Myers Co., he was with the Central Hanover Bank and Trust Co. in New York as credit investigator, in the business development department, and in the financial, legal and personnel divisions. He went to Bristol-Myers Co. as director of personnel in January, 1943.

Wyeth Gets Fair Trade Injunction

John Wyeth & Brother, division of Wyeth Inc., Philadelphia, has secured an injunction against the King Drug Co., Covington, Ky., restraining it from selling Amphojel and other Wyeth products at prices below those established under Fair Trade schedule.

Emery Industries in New York

The New York office of Emery Industries, Inc., Cincinnati, manufacturer of oleic acid, special fatty acid, the Twitchell process and Sanitone, has been moved to new quarters in the Woolworth building where it has been located for the past twenty-five years. The office, under the direction of H. D. Armitage, district sales manager, is now located in room 3001-2-3, Woolworth Building, 233 Broadway, New York 7. The telephone is Cortlandt 7-4393-4.

Upjohn Advances Patterson and Schellack

At a special meeting of the board of directors of the Upjohn Co., Kalamazoo, two important executive changes were made.

C. V. Patterson, vice-president and director of sales, was made vice-president and director of production, and E. H. Schellack was elected to the board of directors and was made vice-president and director of sales.

The action was precipitated by the untimely death of Dr. Harold S. Adams, recently elected vice-president and director of production.

Mr. Patterson has been with the company since 1925, starting as a salesman in Kansas City. In 1928 he became supervisor of sales work in the states of Missouri and Kansas. He went to Kalamazoo in 1931 as secretary to Malcolm Galbraith, director of sales. In October 1942, after the death of Mr. Galbraith, Mr. Patterson and Mr. Schellack were made general sales managers, sharing joint responsibility for the sales management of the ten branch offices.

Mr. Schellack joined the Upjohn Co. in 1919 as a salesman in Moberly, Mo., later transferring to sales work in Texas. In 1923 he transferred to Kalamazoo, in 1927 became assistant sales manager and later sales manager of the Kalamazoo branch, and then in 1942 general sales manager of the company.

Leube Joins Corday-Quinlan

Benson Storfer, president of Parfums Corday and Kathleen Mary Quinlan, announces that Randolph P. Leube has become associated with his organization in an executive capacity and as manager of sales.

Mr. Leube brings to his new association an extensive background in merchandising and sales management. His many years' association in the perfumery and toilet goods industry, in addition to his numerous past trips throughout the country, have gained him a host of business friendships.

He was formerly vice-president and sales manager of Parfums Schiaparelli, from which position he recently resigned.

Egan Quits Marie Earle

H. J. Egan, vice-president of Rallet Corp., sole distributor of Marie Earle products, has announced that he has relinquished his connection with the corporation. Mr. Egan's resignation, took effect December 31.

Wade Joins Grove Laboratories

G. C. Wade, associated with Meyer Brothers Drug Co., for twenty-three years, has joined the executive staff of Grove Laboratories, St. Louis, as buyer and wholesale sales consultant, according to Harry B. Goldsmith, president.

G. C. WADE

For the past thirteen years he has been in charge of purchases of proprietaries, cosmetics and pharmaceuticals and merchandising consultant for Meyer Brothers.

Mr. Wade is one of the founders and past president of the St. Louis Drug, Chemical and Allied Trades Association and has served on the board of governors since its inception.

Standard Synthetics Expands

Standard Synthetics, Inc., New York, moved its offices, warehouse and laboratory the middle of January to more convenient premises at 30 West 26 St., New York 10.

The move will enable the company, which was established twenty-one years ago in London by J. L. Hindle, to take care of greatly increased business. Started on a small scale in 1923, the New York office was opened in 1938 under the guidance of Edward Remus. The company has since expanded so that it now has branches in Chicago, Kansas City, San Francisco, St. Louis, Boston and Montreal and agents in South and Central America.

Empire Box Anniversary Book

In celebration of its fortieth anniversary Empire Box Corp. has published a very attractive and interesting booklet which tells the story of the first forty years of the company from its inception to its present position in the field of package manufacturing. It is generously illustrated with photographs and drawings and is bound in blue suede.

Gallowhur Post-War Plans

As part of a post-war employment plan, the Gallowhur Chemical Corp., through its president, George Gallowhur, has announced a pledge to swell its payrolls twenty-five per cent by hiring veterans returning from the war.

The corporation's present employees, all of whom will be retained, already enjoy free insurance, hospitalization and retirement benefits, and its inventors receive special profit participation. All of these benefits, Mr. Gallowhur said, would be extended to veterans included in the twenty-five per cent pledge.

The company is the manufacturer of Skol, Skat, and of Sunstill, a pocket-sized apparatus that converts sea water into fresh water. All of these products, as well as a puratizing process which is used lastingly to protect materials from mildew and bacteria attack are being employed by the Army and Navy. Most of the Gallowhur products are manufactured in Windsor, Vt., and it is planned to have all units of the organization located there after the war. It now employs the largest staff it has ever had and has lost few to the armed services because of the essential nature of its work. The twenty-five per cent pledge therefore applies to new employees.

National Drug Advances Clinton

E. R. Clinton, sales manager of National Drug Co., Philadelphia, has been elected vice-president in charge of sales. Mr. Clinton has been with National since 1941. Previous to that he had a successful record in sales and sales management over a period of twenty years in several branches of the chemical industry.

Howbridge Named Union Phar. V.P.

John H. Howbridge, general manager of Artar Cosmetics, Inc. has been elected a vice-president of the Union Pharmaceutical Co., Inc., Bloomfield, N. J. The other officers of the company are: president, William J. Hagenah; vice-president, Kay Simmon; treasurer, C. F. Eurich; and secretary, Wallace L. Somers.

Morrison Heads Calvert Drug

R. G. Morrison has been elected president of the Calvert Drug Co., Baltimore. Other officers elected were: vice-president, Charles S. Austin; secretary, John Wannenwetsch; treasurer, S. Y. Harris; and assistant treasurer, W. Scott Walb.

Cheplin to Make Penicillin

Production will start shortly in the Syracuse penicillin plant of the Cheplin Biological Laboratories, a division of Bristol-Myers Co. A ceremony was held December 9 when the cornerstone for the nearly completed building was laid. Lee H. Bristol, vice-president of Bristol-Myers Co., spoke briefly; Mayor John L. Hanlon, of East Syracuse, and Mayor Thomas E. Kennedy, of Syracuse, welcomed the new plant to the city; and Major Harry C. Gilbert, U. S. Army Engineers, represented the WPB at the ceremony. Dr. Harry A. Cheplin, president of the Cheplin Biological Laboratories, under whose direction the new plant will operate, laid the cornerstone of the new building.

CORNERSTONE CEREMONY AT CHEPLIN PENICILLIN PLANT IN SYRACUSE

Commercial Solvents Agricultural Division

To handle its rapidly expanding business in the agricultural field, particularly vitamin feeds and insecticides, Commercial Solvents Corp. has organized an agricultural division of its sales department. The manager is Hugh R. Stiles who will be located at Terre Haute, Ind.

Dr. Stiles, a graduate of the University of Wisconsin, joined the research

HUGH R. STILES

department of Commercial Solvents in 1926 and prior to assuming his new duties was in charge of the biological research activities. He has had an important part in the development of Commercial Solvents' processes for producing B complex vitamins, particularly riboflavin, from natural sources.

Wyeth Chemical Becomes Larned Corp.

Wyeth Chemical Co. has filed a certificate of change of name with the Secretary of the State of New York, changing it to the Larned Corp.

Merit Certificate to Merck

A certificate of merit for development of the "Merck Plan" for expediting the loading and unloading of freight cars was presented to Merck & Co., Inc., Rahway, N. J., at a recent luncheon meeting of the Traffic Committee of the Chamber of Commerce of Eastern Union County.

The presentation was made by Secretary of State Joseph A. Brophy, representing Governor Charles A. Edison. Henry G. Elwell, chairman of the traffic committee, presided, Walter H. Cole, president of the Chamber, read a resolution approved by the directors, commending the company, and the certificate was accepted on behalf of Merck & Co. by Henry W. Johnstone, vice-president.

Perfumes in Bulk from Cuba

J. M. Wynschenk, Calle "O" No. 14, Havana, Cuba, announces that he is in a position to export from Cuba perfume extracts in bulk in large quantities, and also toilet water in bulk. He would like to make a connection with some company in this country interested in importing these products.

Calco Buys United Color

Calco Chemical division of the American Cyanamid Co. has purchased from the Interchemical Corp. its United Color and Pigment Co. division, located in Newark, N. J.

Continental Can Advancements

Carle C. Conway, chairman of the board and president of Continental Can Co., Inc., has announced that J. B. Jeffress, Jr., formerly secretary and treasurer, has been elected a vice-president of the company. He will act as

W. H. FUNDERBURG

assistant to the president. Sherlock McKewen was elected secretary and treasurer of the company and W. H. Funderburg, formerly in charge of packers' can sales, was put in full charge of all the company's sales, with the title of vice-president in charge of sales.

Reibel Returns to Bree

Bertram Reibel, formerly of Associated Distributors, has returned to Bree Cosmetics, Chicago, as general manager. Mr. Reibel previously held this position for a period of ten years.

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SAGE LEAVES
SARSAPARILLA ROOT
SAVIN OIL
SAVORY
SENNA LEAVES AND PODS
SESAME SEED, Hulled and Natural
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STROPHANTUS SEED
THYME LEAVES & OIL
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Dow in Philadelphia and Boston

Clayton S. Shoemaker, recently appointed eastern sales manager of the Dow Chemical Co., has announced the personnel of the new Philadelphia and New England sales offices which were opened January 3.

The Philadelphia office at 1400 S. Penn Square is in charge of Alexander Leith, Jr., who has been with Dow's New York sales office since 1923. Alfred A. Lawrence, with Dow since 1940, heads the New England office at 20 Providence St., Boston.

Mr. Leith was graduated from Colgate University in 1919 and received a master's degree from Columbia University in 1921. Mr. Lawrence, before joining Dow, had long experience in textile finishing with the Cranston Print Work Co., Cranston and Webster, R. I.

Working with Mr. Leith in the Philadelphia office will be Frank H. Sellars, 3rd, handling magnesium sales, Elmer K. Stilbert, and Charles E. Seel, handling heavy chemicals and pharmaceutical sales. Mr. Sellars joined Dow last year after engineering experience in the U. S. Coast Guard, and work with the U. S. Envelope Co. Mr. Stilbert came to Dow in 1940 after considerable time spent as a research chemist with Lockport Felt Co., Newfane, N. Y. Mr. Seel's experience includes three years with Anacin Wyeth Chemical Co., Jersey City, N. J.

Assisting Mr. Lawrence in the New England office will be Felix J. DeSantis, heavy chemicals and pharmaceuticals, a graduate of Massachusetts College of Pharmacy in 1936, more recently engaged in the sale of pharmaceuticals and hospital supplies; George B. Makepeace with fourteen years' experience in the textile and plastics fields, two years of which were spent with Firestone Rubber & Latex Products Co., Fall River, Mass. The name of the representative who will handle magnesium sales in the New England office has not been announced as yet.

Maria Danica Under New Management

The Business Capital Corp. of New York has purchased controlling interest of Maria Danica Laboratories Corp., with offices at 100 Fifth Ave. The new officers are: J. A. Reichart, president; Joseph de Witt. vice-president; D. E. S. Taylor, secretary. The business will be continued under the same name. Maria H. Friis Hansen has been retained as production manager.

Seeley Opens Calif. Division

Seeley & Co., New York, has announced the establishment of a western division in California. The company will be represented by Melvin F. Vincent, a native Californian who has spent considerable time familiarizing himself

MELVIN F. VINCENT

with the product manufactured by Seeley & Co. at both the Nyack, N. Y. and Farmingdale, L. I. plants. He has had wide experience in the food industry and spent twelve years in his former connection, five years on the coast and seven years in the New York territory. The location of Mr. Vincent's office is Overland Terminal Warehouse, 1807 East Olympic Boulevard, Los Angeles 21, California.

Bristol-Myers Appointments

Bristol-Myers Co. has announced the appointment of George S. McMillan, since 1936 secretary of the Association of National Advertisers, as director of public relations. Mr. McMillan succeeds Sherwood Clarke Chatfield, who will henceforth devote full time to the post of director of personnel for Bristol-Myers and affiliated companies.

GEORGE S. McMILLAN

SHERWOOD CLARKE CHATFIELD

Mr. McMillan, a native of Canon City, Colorado, was graduated from Hamilton College in 1916. After his demobilization in 1919, he spent ten years with the Tea & Coffee Trade Journal, as managing editor. In 1929, he became assistant managing director of the A.N.A., and in 1936 moved up to the post of secretary of the association.

Mr. Chatfield, who joined Bristol-Myers in May 1941 as director of public relations, recently had his duties extended to cover personnel work involving all divisions of the company, i.e., the parent plant at Hillside, N. J.; the Rubberset Co. plant in Newark, N. J.; the Harris Vitamin Laboratories, in Tuckahoe, N. Y.; and the Cheplin Biological Laboratories in Syracuse, N. Y. His new duties demanded his full attention, and led to his transfer to the post of fulltime director of personnel as of January 1, 1944, when Mr. McMillan joined the company to fill the post which was vacated.

Dr. Gilbert Joins Com. Solvents

The addition of William J. Gilbert to the research department staff of Commercial Solvents Corp. has been announced. Dr. Gilbert is a mycologist and botanist, who received his Ph.D. from the University of Michigan where until recently he was a teaching fellow. He will be associated with the biological division of Commercial Solvents research department.

Shulton in South America

Frederic I. Rowe, recently appointed export manager of Shulton, Inc., New York, has returned from a two months' trip through South America and the West Indies. During his trip Mr. Rowe appointed Shulton representatives in Mexico, Cuba, Colombia and Venezuela. Where manufacturing facilities are available, Shulton will take full advantage of them.

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Continental Can Appointments

J. F. Egenolf, vice-president in charge of manufacturing, Continental Can Co., Inc., has announced the appointment, in the manufacturing department, of R. O. Post as manager of operations, Eastern Division, with headquarters in Baltimore, and of L. E. Hall as manager of operations, Central Division, with headquarters in Chicago.

Mr. Post was formerly assistant to the vice-president in charge of manufacturing, while Mr. Hall was manager of labor relations.

Merrell Research Changes

Robert S. Shelton, vice-president and scientific director of the Wm. S. Merrell Co., Cincinnati, has announced the following promotions in the research department: Dr. M. G. VanCampen, Jr., assistant scientific director; Dr. Harold W. Werner, chief of the pharmacology division; Dr. Fred W. Oberst, chief biochemical division.

Herzog Rejoins Revlon

Lester Herzog has rejoined Revlon Products Corp. after being honorably discharged from the armed forces after fifteen months of service. He has been made assistant sales manager in the beauty salon division.

Pfaudler Gets Army-Navy E

The Army-Navy "E" Award has been given to the Rochester, N. Y., plant of the Pfaudler Co., manufacturer of glass-lined steel processing equipment. The Award had already been made to the company's plant in Elyria, Ohio.

Solvent Booklet

C. P. Chemical Solvents, Inc., Newark, N. J., has issued the second edition of "Solvents-Alcohols-Extenders," an attractively printed booklet that not only covers alcohols, ketones and esters but also aromatic and aliphatic petroleum naphthas and coal tar naphthas as well.

People

Dr. Sonneborn Honored

Dr. Ferdinand Sonneborn, president of L. Sonneborn Sons, Inc., was honored by executives and veteran employees of the company at an informal luncheon, January 10, his seventieth birthday. The luncheon was held in the Carpenter Room of the Waldorf-Astoria Hotel and also celebrated the fortieth anniversary of the founding of the firm.

The guest of honor was given a handsome testimonial book containing his portrait and signatures of all employees at the company's main offices in New York, its branches, the Sonneborn refineries at Petrolia and Franklin Creek, Pa., and the Nutley, N. J. plant.

Dr. Sonneborn was born at Breitenbach, Germany, and educated in universities in that country and in Basle, Switzerland. He came to America in 1904 and founded the company which he still heads. He pioneered the refining of white mineral oil in this country and has also directed the development of many petroleum products, chemical specialties and manufacturing processes.

Heidbreder in Serious Accident

From St. Francis Hospital, Evanston, Ill., comes the unpleasant news that Grant H. Heidbreder, vice-president and general manager of Helfrich Laboratories, Chicago and New York companies, is confined after a critical accident the evening of December 29, when alighting from a Chicago and Northwestern train at Park Ridge, Ill., where he resides.

GRANT H. HEIDBREDER

His left foot and ankle were crushed to such an extent that amputation below the knee was necessary and the right leg was broken in two places as well as undetermined injury to the pelvic region. As we go to press, reports are that Mr. Heidbreder is holding his own but indications are for a long pull before he will be back in active circulation in the cosmetic manufacturing field.

Brooks Aids 4th War Loan

H. L. Brooks, president, Coty, Inc., has accepted the chairmanship of merchandising section of the Commerce and Industry Division of the Fourth War Loan.

A Daughter to the Cummings'

A daughter, Mary, was born January 6 to Mr. and Mrs. Harold F. Cummings. Mr. Cummings is associated with Mallinckrodt Chemical Works, St. Louis.

Julie Ann Young Revson

Mr. and Mrs. Martin Revson announce the birth of a baby girl, Julie Ann Young Revson, on December 2, weighing 6 pounds and 11 ounces. Mr. Revson is general sales manager of the Revlon Products Corp., New York.

Son to Lt. and Mrs. T. C. Sheffield

A son was born at Miami Beach, Fla., December 1, 1943, to Lt. and Mrs. Thomas C. Sheffield. Lt. Sheffield, peacetime western manager of the New England Collapsible Tube Co., is currently serving as aide-de-camp to the Commanding General of the Army Air Corps Training Command at Miami. The baby has been named Tracy Kyle Sheffield after Tracy Sheffield, president, and Kyle Sheffield, vice-president, of the New England Collapsible Tube Co.

Evans Gets Flight Instruction

Ralph L. Evans, Jr., has been graduated from the Colgate University Naval Flight Preparatory School at Hamilton, N.Y., and immediately began the second phase of his pilot training in Colgate's War Training Service unit in which he will receive his first flight instruction. He is the son of Ralph L. Evans of Evans Chemetics, Inc., and before joining the Navy attended Massachusetts Institute of Technology.

Henry Bristol Aids 4th War Loan

Henry Bristol, president, Bristol-Myers Co., has accepted the chairmanship of the Drugs & Pharmaceuticals Manufacturing and Wholesale division for the Fourth War Loan.

Associations

Drug Trade Dinner March 9

Edward T. T. Williams, chairman of the Drug, Chemical and Allied Trades Section of the New York Board of Trade, has announced that the Section's 19th annual dinner will be held at the Waldorf-Astoria, New York, Thursday, March 9.

The following committee chairmen have been appointed: Guy L. Marsters, Norwich Pharmacal Co., reception com-

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mittee; John J. Toohy, E. R. Squibb & Sons, program committee; Robert B. Magnus, Magnus, Mabee & Reynard, Inc., dinner arrangements; William D. Barry, Mallinckrodt Chemical Works, publicity committee.

The price of the tickets will be the same as last year, namely $10.00 each; $100 for tables of ten.

Fanning Heads Chemical Salesmen

The Salesmen's Association of the American Chemical Industry held its annual Christmas party at the Hotel Roosevelt, New York, December 16. About 500 members were present.

The following officers have been elected for the coming year by the Association: president, Frank G. Fanning, N. I. Malmstrom & Co.; vice-president, Charles F. Alexander, L. Sonneborn Sons, Inc.; treasurer, James McInnes, Jr., Commercial Solvents Corp.; secretary, James E. Ferris, Niagara Alkali Co. Elected to the executive committee to serve from 1944 to 1946 were: Frank J. McHugh, N. Y. Quinine & Chemical Works, and Charles V. Douglas, Diamond Alkali Co.

Can Manufacturers Institute

The Can Manufacturers Institute held its annual meeting in New York, December 13. At the meeting which marked the Institute's fifth anniversary, four new members were elected to the board of governors: W. H. Funderburg, Continental Can Co.; Victor LeComte, LeComte & Co., Inc.; J. E. Macry, Empire Can Corp.; R. S. Solinsky, Cans, Inc.

The twelve members who continue to serve on the board are: C. H. Black, American Can Co.; S. L. Buschman, National Can Corp.; L. H. Clark, J. L. Clark Mfg. Co.; C. C. Conway, Continental Can Co.; D. W. Figgis, American Can Co.; D. M. Heekin, Keekin Can Co.; George A. Milton, George A. Milton Can Co., Inc.,; F. T. Nesbitt, Owens-Illinois Can Co.; F. J. O'Brien, Continental Can Co.; J. A. Stewart, American Can Co.; H. K. Taylor, George D. Ellis & Sons, Inc.; E. B. Webster, Crown Can Co.

T.G.A. Scientific Meeting

The first meeting of the Scientific Section of the Toilet Goods Association is being held January 26 at the Waldorf Astoria Hotel, New York. Scheduled to address the meeting were: H. L. Brooks, president of the association, Address of Welcome; Dr. W. C. Bainbridge, H. Kohnstamm & Co., "Determination of Lead in Chromium Oxide;" F. H. Buckwalter, Bristol-Myers Co., "Lead Analysis by the Dithizone Method;" B. E. Cash, Celanese Corp. of America, "Plastics in the Cosmetic Industry;" Dr. Dan Dahle, Food and Drug Administration, "Cosmetic Analysis;" N. T. Gorchoff, Morton Mfg. Co., "Determination of the Melting Point of Molded Wax, Fat and Oil Mixtures;" James H. Hall, Pond's Extract Co., "Bromo Acid Solvents;" Walter Mueller Van Dyk & Co.; "Evaluation of Sunscreens;" D. F. Nealon, National Toilet Co., "A Study of the Skin Lightening Effects of Ammoniated Mercury;" Dr. Louis Schwartz, U. S. Public Health Service, "Dermatitis and Cosmetics;" Dr. Harvey Seil, Seil, Putt & Rusby, Inc., "Estimation of the Flavoring Materials in Dentifrices;" and Dr. M. L. Tainter, Sterling Drug, Inc., "Control of Abrasion from Dentifrices."

McShane Gets N.W.D.A. Scroll

J. H. McShane, of Thomas Leeming & Co , New York, was awarded a scroll of appreciation for "service" rendered during 1942-43 to the National Wholesale Druggists' Association. Mr. McShave served as chairman of the committee on entertainment.

Obituaries

Arthur L. Beardsley

Arthur Lehman Beardsley, president of Miles Laboratories, Inc., Elkhart, Ind., died at his home in that city January 3 after a brief illness. He was seventy-four years old.

Mr. Beardsley was a grandson of Dr. Havilah Beardsley, who founded the city of Elkhart.

V. C. Daggett

V. Chapin Daggett, founder and a director of Daggett & Ramsdell, New York, died December 9 at his home in Kew Gardens, L. I. He was eighty-four years old.

Mr. Daggett was a graduate of the Massachusetts College of Pharmacy and in 1890 opened a drug store in the midtown section of New York where he began selling cold cream made from his own formula. In 1929 the Standard Oil Co. of New Jersey purchased the Daggett & Ramsdell organization. Mr. Daggett retired as president but remained as a director.

E. J. Barry

E. J. Barry, president of E. J. Barry, Inc., wholesale druggist, New York, died at his home in Brooklyn, December 25. He was eighty-two years old.

He was born in County Cork, Ireland, in 1861 and came to this country about 1880. He entered the employ of William H. Raser, a drug broker, as bookkeeper. He took over the business in 1904 and for a while continued it as a drug brokerage. It was gradually changed to a wholesale drug business and Mr. Barry remained in active control until his death.

Robert S. Gill

Robert S. Gill, president of the Chesebrough Manufacturing Co., New York, died at his home in Westfield, N. J., December 30 after an illness of several weeks. He was seventy-three years old.

Mr. Gill was born in Brooklyn and had been associated with the Chesebrough Co. since January, 1884, when he started as an office boy. He also was president of the Pinoleum Co., New York, the Duhring Development Co., Marionville, Va., and the Johns Gas Co., Moundsville, Va. He was vice-president of the Clifton Oil and Gas Co. of Parkersville, W. Va.

J. T. Pardee

James T. Pardee, former chairman of the board of directors of the Dow Chemical Co., died at his home in Midland, Mich., January 3. He was seventy-six years old and had been in poor health since his retirement in 1941.

Mr. Pardee who was associated with Dow Chemical Co. for about forty-five years, was born in Cleveland. He attended the public schools there and was graduated from the Case School of Applied Science with a degree of B.S. in civil engineering. He designed and built piers, wharves, viaducts, bridges, including three electrically operated pivot swing bridges at Cleveland, while with the Department of Public Works of that city.

John Postance

John Postance, manager of the New York office of the Arner Co., Buffalo, N. Y., died December 22. He was sixty-five years old.

Mr. Postance had been associated with the Arner Co. since 1931 and was made manager of its New York office in 1935.

INDUSTRY'S BOOKS

The Chemical Front, by Williams Haynes, 264 pp., Illus., Alfred A. Knopf, New York, $3.

We are fighting a technical war, and chemistry's part in it is spectacular, but little known. Tanks move, planes fly, shells burst, all because of explosions—a chemical process which we have learned to harness. In the stratosphere metals shrink, rubber freezes, oils become sticky, so that our Flying Fortresses are possible only because we have new materials, triumphs of chemical research. Sulfa drugs, synthetic quinine, blood plasma, high-octane gas, several rubber substitutes, superexplosives—all these, and many others, are chemical achievements; and there is the ever threatening problem of gas warfare. In this book Mr. Haynes writes clearly, dramatically of these chemical munitions of modern war, of the men who discovered them, how they are made and used, what they promise. His explanations of the chemical processes and industrial problems are models of simplicity. If you want to understand what our chemists and our chemical industries are contributing to our victory, this is the book for you.

Chemical Spectroscopy, by Wallace R. Brode, Professor of Chemistry in the Ohio State University, Second Ed., 677 pp., John Wiley & Sons, Inc., New York, $7.50.

In order that this book might serve the dual purpose of supplying spectroscopic information to chemical workers and of serving as a textbook for a course in chemical spectroscopy, the material on emission and absorption analysis was arranged in different parts. In view of the wide divergence in interests and fields of persons using spectroscopic information, certain portions of the text have been separated so that it is possible for those with limited fields of interest to cover only those sections which concern their work. The following subdivisions of the book are suggested for certain fields of interest. Qualitative and quantitative analysis of elements: Chapters I, III, IV, V, XII, XIII, and XIV for metallurgists, inorganic chemists, analysts, and those interested in atomic identification and estimation. Absorption spectra of organic and inorganic compounds: Chapters I, III, VI, VII, VIII, and XII for organic chemists, biochemists, medical research workers, and those concerned with special inorganic applications or dye chemistry. A set of experiments on the application of spectrographic methods (Chapter XII) follows the theoretical discussion. A number of tables and charts for the solution of these experiments and for general use in the interpretation and application of spectroscopic methods have been included.

Patent Law For Chemists, Engineers And Students, by Chester H. Biesterfeld, B.Ch.E., M.P.L., Member of The New York Bar, 225 pp., John Wiley & Sons, Inc., New York, $2.75.

This volume is the outgrowth of a series of lectures on the substantive patent law, given as an extension course for graduate and undergraduate students at the University of Delaware in 1941 and 1942. The course, which comprised some fifteen or sixteen weekly lectures, was primarily designed for chemists, engineers, and students who desired to acquire an understanding of the basic principles of the patent law. It is a simple, understandable treatment of each of the principal subjects of the substantive patent law, supported by citations and quotations taken from court decisions.

Vegetable Fats And Oils, Their Chemistry, Production, And Utilization For Edible, Medicinal and Technical Purposes, by George S. Jamieson, Ph.D., United States Department of Agriculture, Second Ed., American Chemical Society Monograph Series, 508 pp., Reinhold Publishing Corp., $6.75.

This well-known work has been quite successful in bringing within the compass of one comparatively small volume as much information as possible in regard to the vegetable fats and oils. The arrangement of the subject matter in the Second Ed. has not changed from that used in the previous one. In a few cases, it was found desirable to rewrite the descriptive matter either wholly or in part. However, in all cases, an effort has been made to bring the information given up-to-date. A considerable number of fats and oils have been described in addition to those appearing in the first edition. To the chapter on methods have been added several other procedures, including that for the determination of the diene value. Attention is called also to the new directions given for determining the thiocyanogen value. Data has also been added on the quantity and character of oil in seeds from ornamental (besides some other) trees and plants.

The Mathematics of Physics and Chemistry, by Henry Margenau, Associate Professor of Physics, Yale University and George Moseley Murphy, Assistant Professor of Chemistry, Yale University, 581 pp., D. Van Nostrand Co., New York, $6.50.

The authors' aim has been to present, between the covers of a single book, those parts of mathematics which form the tools of the modern worker in theoretical physics and chemistry. They have endeavored to do this by steering a middle course between the mere recording of facts and formulas which is typical of handbook treatments, and the ponderous development which characterizes treatises in special fields. The work has been divided into the following main chapters: 1—The Mathematics of Thermodynamics. 2—Ordinary Differential Equations. 3—Special Functions. 4—Vector Analysis. 5—Vectors and Curvilinear Coordinates. 6—Calculus of Variations. 7—Partial Differential Equations of Classical Physics. 8—Eigenvalues and Eigenfunctions. 9—Mechanics of Molecules. 10—Matrices and Matrix Algebra. 11—Quantum Mechanics. 12—Statistical Mechanics. 13—Numerical Calculations. 14—Linear Integral Equations. 15—Group Theory.

Mellor's Modern Inorganic Chemistry, Revised and Edited by G. D. Parkes, M.A., D.Phil., Fellow of Keble College, Oxford, in Collaboration with J. W. Mellor, D.Sc., With Diagrams and Illustrations, 913 pp., Longmans, Green And Co., New York, $4.50.

This new edition embodies extensive changes in comparison with the previous editions, due to the great development of the subject since the book was first written. It is now virtually a new book. The most obvious change which has been made is in the arrangement of the contents. The plan now adopted begins with a series of chapters (I to XVI) covering all the necessary general and theoretical parts of the subject, starting from the properties of gases and proceeding by logical steps to the Atomic Theory, modern views of the Structure of Matter, the Electrolytic Dissociation Theory and so forth. There then follows a group of seven chapters (XVII to XXIII) devoted to the elements hydrogen, oxygen, carbon, nitrogen, sulfur, and the halogens, and their principal compounds. The remainder of the elements and their compounds are then discussed, according to the order of the groups of the Periodic Table. A large proportion of the diagrams is new, and those which are not new have been redrawn. A number of new half-tone illustrations has also been included.

Industrial Chemistry, by William Thornton Read, Dean of the School of Chemistry Rutgers University, Third Ed., 631 pp., John Wiley And Sons, Inc., New York, $5.

The preparation of this book was undertaken at a time when normal commerce and industry are disrupted. Certain chemical information is not available or cannot be published for obvious reasons. The purpose of the book therefore, is to present, as far as possible, a picture of industrial chemistry as it was at the beginning of the year 1942. Contents: The Relation of Chemistry to Industry; The Work of Chemists and Chemical Engineers; Chemical Organizations; Sources of Information; Analytical Control In Chemical Industry; Chemical Economics; Unit Operations and Equipment; Materials of Construction; Units and Calculations; Water, Fuel, and Lubricants; Sulfur and Sulfuric Acid; Fixed Nitrogen; Silicate Industries; Sodium, Calcium, and Magnesium Compounds; Mixed Fertilizers; Hydrochloric Acid; Electrochemical Industries; Metallurgy; Petroleum; Animal and Vegetable Oils, Fats, and Waxes; Carbohydrate Industries; Protein Industries; Rubber; Coal Products; Drugs, Dyes, and Plastics; Explosives; Protective Coatings.

Herbs For The Mediaeval Household, For Cooking, Healing and Divers Uses, by Margaret B. Freeman. 48 pp., The Metropolitan Museum of Art, New York, Illus., $1.50.

This is a beautiful little book of mediaeval recipes for preparing food with herbs. It tells what the mediaeval housewife did with hyssop and fennel and feverfew, with roses and rosemary and rue. The herbs are listed alphabetically and information is given on their curative properties as well as on the culinary application of the herbs. The author obviously did a good research job in the early literature on this subject. Linecut illustrations are interesting and the book is beautifully printed.

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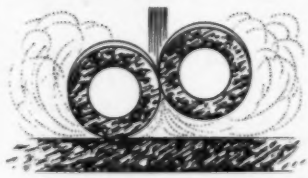

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PRODUCTION FORUM

By FRANCIS CHILSON
Production Engineer

PENSION SYSTEMS

Nothing retards progress like a pension system. That remark will startle you and before elaborating, an exception will be made for pension systems for hourly workers. The reference is only to pension systems for executives. In my experience I have bumped into pension systems of one kind or another all over the United States, and in every instance I have found that the effect of a pension system on executives is to make them over-conservative and exceptionally cautious. They will not make decisions because they are afraid they will jeopardize their pensions. They become mortally afraid of committing themselves to a course of action which may get them out on the end of a limb. Not only will they fail to take the initiative themselves, but they will not allow their subordinates to take the initiative. Time after time my efforts have been retarded by prospective pensioners. In my case, however, I can handle the problem all right because I'm invariably in a position to appeal over the heads of those who fear action. But pity the poor young guy who is on his way up; who has good ideas and must submit them to a boss who is a pensioner!

Executive pensioners who are in their late forties or early fifties and who've spent ten or twenty years with their firms realize that their open market value is open to question, and it's only the exceptional man in this category who will initiate a course of action which might jeopardize his job or his pension. When you find the exceptional man, you will find that he is not at all influenced by his pension or his position. He is usually the type of guy who won't take the pension when it comes due but will insist on staying in the harness although he may step aside so that his major responsibilities are carried by younger men. I have learned to spot these exceptional men. Invariably and regardless of age, they are dynamic, intelligent, and enthusiastic. In other words they still have retained the qualities they had as youths. It is my opinion that the very moment an executive fears to put his job on the line to back up one of his decisions, his value to his company instantly begins to diminish if not to disappear. Therefore, it seems wise not to enhance this conservative tendency by providing a promise of future security in the form of a pension. The men who feel insecure usually are the men who get things done.

DON'T WRITE IT

Long and repetitive experience has taught me that if you want to fight with anyone in your own organization or outside of it, don't put it in writing. It's better to go straight to the individual who has trod on your corns and tell him off in person. When you get mad in writing you will always lose the argument, even when complete justice and all the facts are on your side. Last Sunday night one of the plant managers in the trade called me at home and read a five-page memorandum in which he excoriated the sales manager of his company for certain erroneous statements that individual had made in a memorandum to the president of the company. My friend, the plant manager, received a copy of the sales manager's remarks on Saturday morning. He blew his top and became so damned mad that he spent his week-end writing a polemic of five pages. It was a beautiful piece of literature. It reminded me of the letters of Junius. It must have cost him fifteen dollars in long distance phone calls to read it to me over the telephone. After he read it, I told him to throw it away. He became obdurate on the subject but finally agreed to a compromise, which was to send a one-page memorandum to the president, listing the facts in the case without any personal references whatever. He agreed to do this but when the memorandum was written he was still so sore he couldn't help taking a couple of pot-shots at the sales manager. The result was he got hell from the president for allowing himself to become irritated to the point where he allowed his personal feelings to sway his judgment. Even though the sales manager was wrong in his facts and in his assertions, he nevertheless won the battle anyhow. A vehement or personal attack in writing always boomerangs on the writer.

FOUR-ZONE DRYER

J. O. Ross Engineering Corporation, 350 Madison Avenue, announces what has always been badly needed by the industry, a combination continuous and batch

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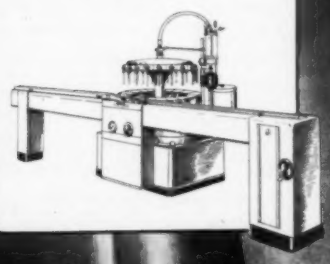

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dryer. This dryer is so designed that it can be used as a tunnel dryer for continuous production of large quantities of material. Doors are provided at the opposite ends and the trucks are pushed through the dryer by means of a reciprocating, pneumatic ram. The doors are electrically controlled so that when the intake door is opened, the egress door also opens to permit the discharge of a truck.

Doors also are provided along one side of the dryer, dividing it into four distinct zones or compartments. Each of these compartments will hold two trucks so that when used as a batch dryer, the unit constitutes four two-truck dryers. Mechanical separation of the zones or compartments is secured by electrically operated overhead doors. When the doors are in the lowered position, the four zones are thus physically separated.

What makes this dryer distinctly unique, however, is that each of the four zones is provided with a separate set of controls so that, regardless of whether the dryer is used as a batch dryer or a tunnel dryer, different conditions of humidity and temperature can be secured for each zone. The air in each zone does not intermix. Contributing to this uniqueness is that, unlike conventional tunnel dryers, the air in this one is not recirculated from the discharge to the intake end as is the common practice, but it is circulated *across* the dryer. But the novelty does not end here because the arrangement of ducts is such that in one case, air passes from the back of the dryer to the front where the return duct is located, and the next set of ducts provides for the passage of air from the front of the dryer to the back. Thus when the dryer is in use as a tunnel dryer, the air is not only circulated across the dryer but it moves in alternate directions so that there is absolutely no danger of drying one side of the trays faster than the other.

Another distinctive feature is that the air makes only one passage across the trays and it travels at extremely low velocity. These unique features will make it possible to use the dryer without danger of contamination on eight different materials even when the dryer is in use as a tunnel dryer. When in use as a tunnel dryer the arrangement of the ducts and the controls makes it possible to do what it has never been possible to do before in a tunnel dryer, namely to treat the material with a different set of conditions as it progresses towards dryness. As you know, when material is wet it will stand a very high temperature. In the first zone, or intake zone, you can keep the temperature very high and you also can keep the humidity near the saturation point to prevent case hardening. In the second and succeeding zones you can set the controls to provide progressively lower dry and wet bulb temperatures.

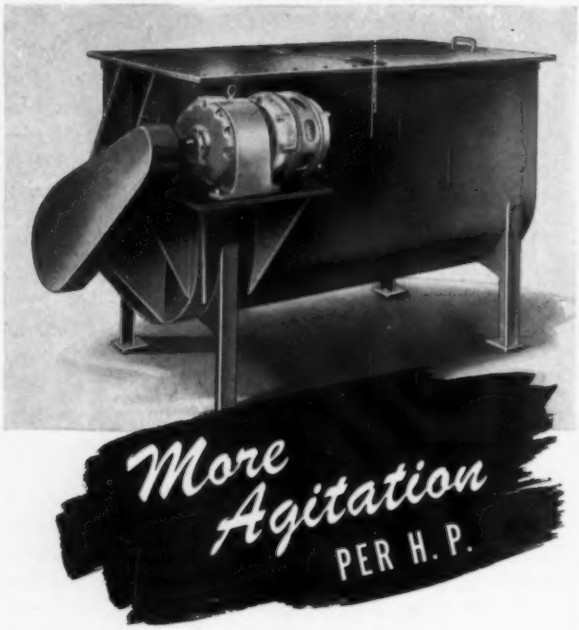
This dryer for the first time makes it really possible to establish a flexible granulating department. The trouble with most granulating departments is that when you are required at intervals to turn out large batches of certain products, all your dryers become filled up and you are unable then to turn out the other products which you need at the same time. This dryer makes it possible for you to handle large quantities in a hurry or small ones at your leisure. The dryer can be used for pharmaceuticals, foods, chemicals, cosmetics, et cetera. Finally as a surprise, you may be interested to know that I invented this dryer. It is known in the Ross organization as the Chilson dryer.

REUNION IN NEW YORK

Funny how times change without changing the outward aspects of the lives of some individuals. Last week a reunion was staged in New York with some of my old engineering associates. Years ago I worked for the old Sprague Development Corporation. I was one of a group of young engineers. I had charge of production while the other boys were engaged on engineering research. The organization was small, and I don't suppose that the highest-paid in the lot got over $70 a week. We used to meet daily for luncheon and discuss the future as youngsters will. The future for me held a promise of $5,000 a year before I died. One of the other boys was more ambitious. He was going to make $30,000 a year before he was thirty and he was going to marry the daughter of a millionaire. One of the other lads didn't give a damn about the future. Time went on and the Sprague organization was dissolved upon the death of the presiding genius, Frank J. Sprague. In the meantime, the writer had wandered to other fields and for a period of years contact was lost. Then suddenly it was picked up again and I learned ironically enough that the lad who didn't give a damn about the future was also engaged in consulting engineering in the electrical field and with one exception, all of the old crowd are working for him, including the lad who was going to make thirty grand a year. I'm the exception. We had quite a time discussing the last twenty-odd years. I wonder if I look as old as those old buzzards.

PRODUCTION RECORD

What would you say if you were told about an outfit which doubled its production within a year with—not more machinery—but less machinery than it had at the start. Up to November 1942 the average production of this plant was 4,000 cases of goods a day. On one peak day by a herculanean effort, 4,500 cases were produced. By the end of the succeeding year, the average daily production sustained over a period of months was in excess of 9,600 cases. On one day it reached 10,000 cases, which was slightly in excess of 100 per cent of rated machine speed. This phenomenal increase was achieved not by miracles or wizardry but by the simple application of common sense and the use of the right criteria. I continually harp on the fact that performance should never be measured against what has been done; it should be measured against what might be done, because one never knows whether past performance is good, bad, or indifferent. In this case production had crept up from 2,500 cases a day to 4,000; therefore in the eyes of the plant management, the performance was good. Measured against the operating



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speed of the equipment the performance was lousy. So a new goal was set. Then common sense was applied.

The principal operating equipment consisted of three automatic lines of powder packaging equipment. These machines were directly hooked up to mixing and processing equipment on the floors above. The management had fallen hard for the gravity-flow bunk. It was noticed at once that due to inadequate detention hoppers between the final mixers and the hoppers of the filling machines, the processing equipment and the packaging equipment were always out of step. If a filling machine broke down, the mixers couldn't be dumped because the detention hoppers weren't large enough to hold full mixer charges. Because the detention hoppers were small, the filling equipment would be forced to run out of product and stop every time anything happened to delay the process equipment. When everything was working perfectly, the system worked. Let anything happen at any one point and the system was thrown out of gear and the production loss was irretrievable.

The condition was corrected by interpolating between the detention hoppers of the filling machines and the mixers on the floor above some very large surge bins or detention hoppers. After that when anything went awry on the packaging floor, it didn't hold up the packaging equipment and vice versa. The second situation, requiring the application of common sense, was occurring on the packaging floor. Here two of the automatic lines were good. One was lousy. The result was that all the mechanics on the floor spent their time trying to keep the lousy equipment going. Hence the good equipment, which was capable of several times the operating speed of the bad line, was continually getting out of adjustment because of lack of attention. But the management had been yelling so long and so insistently for increased production that the plant manager fell in with the error of assuming that any increase to production was a gain. In this case it was a loss because he was using the wrong criteria in measuring the performance of his plant. He was comparing present with past production. You can imagine what a howl was raised when the third—the lousy line—was ordered dismantled. The very next day saw a substantial increase in production. The performance of the equipment at full operating speed, as fast as the motors would turn it over, was established as the goal to shoot at. Production went to 6,000 cases, then to 7,000, then to 8,000 and finally to 9,600 cases where it is now being maintained. This sustained average represents 99.6 per cent of the full rated speed of the equipment. In packaging powder that performance is good enough for anybody.

INSPECTING AMPOULES

One of the most difficult jobs in the trade is that of inspecting ampoules. It is easy to detect foreign bodies when they have a pronounced color but small particles of lint are virtually invisible. Not long ago when I was visiting a plant in the South which made special radio parts, there they had a device called the Wilder projector, which was used in inspecting small parts. The

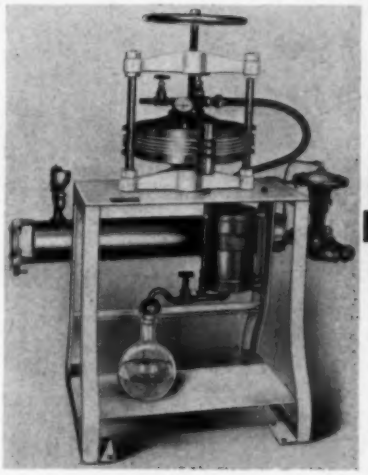
parts were threaded and the threads had to be accurate within one ten-thousandths of an inch. The part to be inspected was placed on a holder in front of a light source, and it was projected on a screen, magnified by fifty diameters. The little threads, which could hardly be seen with the naked eye, stood out boldly on the screen so that even microscopic imperfections could be detected. Might be worth trying.

POSTWAR BUILDING

Last month the place of the architect in building projects was touched on briefly. It would be helpful, perhaps, to elaborate this topic in some detail in order to guide and warn those of you who are planning postwar construction projects. It was said without qualification that an architect should never be permitted to design or plan a building for you. Let me repeat this emphatically. Plan and design your own building. It is a job for your own production men and your own engineers. If their experience has been limited to one or two plants or one or two industries, let them have the benefit of outside advice and guidance. If the outside counsel has had broad experience in your own industry, the cost of this advice will be cheap at any price. If for any reason it is desired to keep the project wholly within your own organization, then a period of at least six months should be spent by your production men and engineers visiting plants in this and other industries. Unfortunately, only a very few pharmaceutical plants will be found to be either well-designed or well laid out. The great majority of them are wrong from every standpoint. Nevertheless, almost every visit to a plant will produce an idea which will be helpful in making the basic plans for your own project. If your production men and engineers realize they are designing a machine and not a monument, they will be able to deliver to your architect a fundamental design which will keep him from repeating the egregious blunders which have been made repeatedly throughout this industry. It may be added that some of the most egregious blunders have been made very recently. In examining existing structures, therefore, your technical men will do well not to be fooled by imposing monuments or by flashy modernistic interiors. They also should remember that their hosts will always describe the good points of their buildings, especially if new, and from a matter of pride, will do everything possible to conceal the defects and the blunders.

Primarily an architect is an artist. He is an artist with an engineering slant. Building materials are to him what clay is to a sculptor. If he is a good architect the chances are that he will be more artist than engineer. He is certainly not an expert in your business or in your industry, and the experience of having built one or two plants in your industry will still not qualify him to a degree which will enable him to handle the whole project without your basic plan and constant guidance. It has been our experience and observation that when architects are given carte blanche, the result of their work may be beautiful to behold but very un-

PENICILLIN



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economical to operate. Remember what was said last month about criteria. The fact that a new building is better than the old either in type or appearance still does not establish its efficiency. Fortunately very few architects are so temperamental that they are impossible to get along with. If you give them the framework and the interior lay-out, they will do a fine job of decorating and building. They may wish to make small modifications in details and usually it's possible to accommodate these concessions without serious interference in efficiency or expandability. In selecting your architect, be sure that he has had a lot of industrial experience. He'll be easier to get along with.

Not long ago a manufacturer in the trade built a plant which, though it looks very flashy in a Hollywood sense, is still an abortion from an operating standpoint. Mr. Big had a friend who is an architect. The fact that the friend had no industrial background didn't disqualify him. The building he built is a good example of the current trend toward streamlining and theatricality. It's flashy.

In the manufacturing department the ceilings are too low. In consequence whenever a piece of equipment such as a dryer has to be installed, the fans have to be put in the cellar under the dryers and holes cut in the reinforced concrete floor for the ducts. Drains are hopelessly inadequate so that the basements will flood during periods of heavy rain. Space is mutilated by corridors. Warehousing is done, partly on one floor and partly on another, and manufacturing is similarly split up. In this case the production men involved tried to develop a basic plan but Mr. Big was so cocksure in his choice of an architect that the architect's views prevailed. In this instance the production men's basic plan called for fifteen feet of headroom in the manufacturing departments because in the old plant they had only ten. This requirement was brushed aside on the ground that it would be too expensive to heat the extra cubeage. This new building is almost as big a white elephant as the one it replaced.

Consider a contrary instance. In this case plans for a very large plant were prepared by production and engineering staffs with the aid of qualified outside counsel. A year was spent in preparing the basic design for the building, its location on the ground, and its interior lay-out. These plans were then turned over to the firm of architects which had built several other plants for the same firm. The result was excellent. The exterior of the plant is very beautiful. It is more efficient as an operating unit than any of the company's other plants, and it can be expanded readily in several directions without impairing its beauty.

In still another instance exactly the same procedure was followed. In this case, however, the war activities of the manufacturer forced him during the war to take over the entire plant for the manufacture of a product which at the beginning of the war had only been a sideline. That the plant proved to be as adaptable for the one product as for the other clearly showed that the plant had been designed in the full realization that

handling materials constitutes by far the greatest part of operating costs and that after all an efficient factory is the one which provides for the handling of materials with the least amount of labor in the shortest possible time and over the shortest distance.

WHITE CERAMICS

Due to the increased demand, particularly in the pharmaceutical field, for a white, iron-free ceramic product, General Ceramics Company, Chemical Stoneware Division, Keasbey, New Jersey announce CERAWITE, their chemical porcelain for industrial purposes.

Most of the General Ceramics standard equipment made in chemical stoneware can now, with the exception of the larger shapes, be furnished in CERAWITE, which has a brilliant white glaze over a dense white body with zero absorption, and iron-free. Of special interest are table tops and sinks made of this product for industrial and institutional laboratories where a white, highly glazed surface is a desirable feature.

ANNOUNCEMENT

It has happened at last. For ten years I have been debating with myself the advisability of establishing a staff of experts in several fields of engineering in order to assist me in handling a rapidly growing business. Finally I grabbed the bull by the horns and the bull turned out to be a Russian bear, whom many of you know as V. P. Victor, formerly of J. O. Ross Engineering Co.

In some circles Vic is known as that goddam Cossack; in others as Saint Vladimir. From ten years of close association I can assure you that any resemblance between Vic and St. Vladimir, the patron saint of Russia, is purely coincidental. In fact any resemblance between Vic and any saint living or dead is purely accidental. I'd say damned accidental.

Vic, as many of you know, was associated for many years with Ross as manager of the drying and refrigeration division of Ross Industries. That Vic is an outstanding international expert on drying and refrigeration there is no question—not even in my mind. Ten years of association with him in many jobs in the drug, chemical and related industries have demonstrated his sound training, his exceptional engineering ability and his expertness in his specialty. I've appraised Vic's ability and personal qualifications over a long period of time pretty doggone carefully. I'm sure I made no mistake; we'll get along. He's a gentleman, a scholar and a judge of good rum. You'll get along with him, too.

In his private life Vic is regarded as a prophet. At a gathering of homesick white Russians Vic was heard to proclaim (this was at the time when Germany first invaded Russia) that "those damn bolshevicks will run like rabbits; they've nothing to fight for!" Vic was an officer in the Russian navy when the Reds decided to shoo the Whites out of Russia. I didn't see it but I've heard it said on good authority that when the Reds

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Feather-light, they are remarkably strong, rigid and unbreakable. Crystal clear, LUSTEROID keeps merchandise always visible and spotlessly fresh——full of eye-and buy-appeal.

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Accurately threaded to G. C. A. Standards.
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Decorative caps for fancy bottles.
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We have solved the packaging problems of many nationally known products by using wood, replacing materials which today are on the critical list! Shown here are a few.
WOOD — may be the solution to your closure problem too.
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got after him Vic sailed his boat right over the top of the Alps into the Adriatic sea. Anyway they didn't catch him or I'd have missed a good partner.

Funny thing that our paths should have crossed before. Just after the first world war I worked for a short time in the engineering department of a railroad repair yard. Vic came to the same shop shortly afterward and worked there until he had gained a working command of English. Then he went on to the University of Cincinnati where he got his M. E. Since then, as an avocation, Vic has been teaching industrial engineering subjects at one of the local universities during the evening sessions. I sat in at one of his production management courses and I got the impression he knew what he was talking about. Now his job is to convince you too. I think he can.

TURBINES

It's a safe bet that the post war period will see an enormous increase in the use of turbines. Plants requiring a substantial amount of process steam can make power also by the use of steam turbines at virtually no cost. You can't of course, put a steam turbine to work in an old low pressure steam plant. Best results are obtained from high pressure steam generating equipment in connection with which turbines can be made to act as reducing valves; and what is especially good about a turbine is that you can bleed the steam off from the discharge port at any pressure your process may require. In one plant with which we were connected 450 HP boilers were installed and the turbines were bled at 150 pounds for process work. In another plant operating at 150 pounds turbines were used for driving all power-plant equipment such as coal pulverizers, conveyors, pumps, etc.

Many more small turbines instead of electric motors could be used for process work. Turbines can be used to drive anything a motor will drive but the economical use of turbines throughout a plant would depend on the demand for process steam. One of the great advantages of turbine drives is that by merely turning valves you can get an almost unlimited gradation of speed changes. You have seen the tremendous increase in the use of air motors for driving portable mixers, etc. These motors are nothing more or less than turbines. They'd work as well with steam. Turbines are built in all sizes from units which can easily be held in the palm of the hand to the giant turbines installed at Boulder Dam and other places.

The turbine was man's first means of generating mechanical power. The old water wheels of various designs which used to run every grist mill in the country are turbines. It is odd that such an ancient mechanical contrivance seems to be coming back in numerous forms.

RADIANT HEAT

Some time ago this department described radiant heating for industrial buildings. This form of distributing heat consists in burying wrought iron pipes

in a loose fill at the time the floor slab is poured. Under special conditions similar coils are buried in the walls to provide additional radiation. Hot water is used as the heat transfer medium. The plants which have installed this type of heating seem to like it very well. But most of these plants are not air conditioned. While the system has numerous advantages it seems to me a bit late. Industrial designers are coming to look upon heating, cooling and ventillating as parts of a single problem. Radiant heating can, as presently conceived, neither cool nor ventilate. Air conditioning does all three. And humidifies as well, which is an important element of heating. However, unless concealed behind hung ceilings or buried in walls, air conditioning ducts are unsightly damned things. You can, however, although I've not yet seen it done, bury the duct work in the floors and ceilings by using reinforced slabs with cinder fill. In multi-story structures this type of construction has often been employed. In one case I saw a ten story building so constructed. You might think about it because cinder sandwich floors would enable you to bury not only your ducts but your sprinkler pipes and other service lines as well. Pipes and ducts festooned from ceilings and walls are unsightly indeed.

EMPLOYEE TRAINING

You probably are sick of hearing me harp all the time on the need for training employees. Not only do foremen need training but run-of-the-mill employees need it more. It has struck me as odd that no amount of time and money will be spared in training salesmen—sometimes as much as six weeks before they are allowed on the road—but factory workers get a nod and a curt instruction to "Start over there. The girl with the red hair will show you what to do." The other day I was asked to look over a packaging department in which performance, order, sanitation and morale were all lousy. In such cases, of course, supervision also is lousy, always. But in this case the confusion was worse compounded because the supervisors were too busy bustling about to see that either new or old employees were properly trained.

Don't be so damned anxious to get the new employees into harness. They'll pull better when they know what they're pulling. Show them through the plant. Tell them what you make and how. Set up demonstrations of the right way to do their jobs. Use movies if need be. Let them observe for a day or two. A few days lost time at the beginning will not only train a worker but will boost morale. Then when the worker gets into harness you'll have a producer right from the start, not a confused bungler. Then be sure your jobs are set up properly and that your service-of-supply is functioning smoothly and continuously. If you, an expert, don't know how to set a job up and keep it rolling how the hell can you expect an inexpert and unskilled and often confused worker to do it for you?

(*Continued on page 110*)

A War Vocabulary

DURATION

—but we can take it. That's the stuff America and Americans are made of.

WE have all gained a great experience in this war and those who have gained most are not the Dollar Pilers, but the ones who have brought an unheard of efficiency in performance and in production of needed war materiel.

Some day we will embark in an allout peace time consumer goods production and when this time comes those who have devoted their energies to the needed war effort, will be better equipped than ever to spring to this newer need with a matchless alacrity, born of our war time experience.

We expect to resume our place as Bottling and Packaging Engineers on consumer needed goods at such time, without the loss of one whit of our former prestige.

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COMPARISON OF DOMESTIC AND IMPORTED ESSENTIAL OILS

A. DeGlazoff and P. Kolachov, in the *Transactions of the Kentucky Academy of Science* (through *Chem. Abstr.* 37:-6405, 1943), report an indicative comparison of assays of domestic and imported aromatic plants and essential oils. They found that Russian and Moroccan coriander planted in the United States have a higher oil content and acidity than the original seeds used for planting. The index of refraction is very closely related and there is also a close similarity in flavor.

The yield of oil from domestically cultivated species of angelica is almost the same as that obtained from the best imported Saxonian type and is higher than from domestic wild species. The flavor of the best domestic and the best imported species is similar, but the index of refraction of the latter is considerably lower and the acidity higher. The flavor of wild species of angelica is very unpleasant.

Of particular interest is the finding that there is twice as much essential oil in the flowers of domestic lavender than in imported flowers. The index of refraction of the two is identical and the fragrance of the distillate from the domestic flowers compares favorably with standard English lavender from the Mitcham district.

These investigators have observed that there seems to be a general tendency for the oil content of domestic juniper berries to be higher in wild aromatic plants than in the cultivated varieties, and the quality seems to be almost in reverse proportion to the amount of oil. The quality of the oil in green berries is inferior and in overripe berries the oil, though abundant, has changed almost completely into resins. Only ripe berries have a characteristic fragrance and should contain from 0.9 to 1.5 per cent of essential oil. For best results it is recommended that the berries should be harvested in the season from October to December. The berries should have a bluish-black shining color, and should be at least one and one-half years old after blooming.

TESTING ETHEREAL OILS

For the detection of adulterants in ethereal oils, P. Rom (*Ber. ungar. pharm. Ges.* 18:260, 1942) recommends the following methods: acetylation for the determination of alcohols; the bisulfite and sulfite method for aldehyde and ketone determination; determination of phenols and optical rotation; and, determination of the evaporation residue, which simplifies identification of the esters of the nonvolatile acids.

DIFFERENTIATING SANDAL OILS

Having found that, despite certain differences, the adsorption spectra of East Indian and West Indian sandal oils were unreliable as criteria, L. Fuchs (*Scientia pharm.* 13:21, 1942) developed a colorimetric test to differentiate the two oils. A color reaction, specific for the West Indian variety, even in the presence of only 10 to 20 per cent of the sandal oil, is as follows: Two drops of oil is dissolved in 4 cc. of acetic anhydride and one drop of sulfuric acid is added. East Indian oils give a yellow-brown coloring, rarely wine-red or red-violet, while the West Indian variety gives a deep blue color.

GERANIUM OIL OF KIVU

In a discussion of the ethereal oils of the Belgian Congo, G. Goethals (*Natuurw. Tijdschr.* 23:81-96 & 121-6) presents the physical properties and composition of the geranium oil of Kivu. The physical properties of the geranium oil are as follows:

Density (at 15° C.)	0.8955
Index of refraction (at 20° C.)	1.4688
Specific rotation	—11.90
Acid number	5.4
Ester number	60.9
Acetyl number	220.0

The oil contained citronellol 44.1 per cent, formates (as citronellyl formate) 16.5 per cent, isomenthone 8.42 per cent, total alcohols 77.2 per cent, free alcohols 60.2 per cent, primary and secondary free alcohols 44.7 per cent and tertiary alcohols 15.5 per cent. The terpene mixture consists chiefly of terpenes containing conjugated double bonds. The linalool obtained from this oil shows very slight rotation. Geranyl formate is present only in small amounts. Next to the formates, the tiglates are the most important esters. The high-boiling esters are chiefly geranyl esters. Phenylethanol occurs only as an ester, probably the tiglate.

Forty fractions of saponified geranium oil were examined. These contained terpenes, linalool, menthone, isomenthone, phenylethanol, citronellol, geraniol and sesquiterpenes.

PROPOSED OIL STANDARDS

The Oil Characteristics Committee of the American Oil Chemists' Society have proposed the following standards for various vegetable oils:

Palm Kernel Oil

(From the kernel or nut of the fruit Elaeis guineensis.)

Spec. Grav. @ 99/15.5° C.	0.860 to 0.873
nD @ 40° C.	1.449 to 1.452
Iodine Value	14 to 22
Sap. Value	245 to 255
Unsaponifiable	Max. 0.8%
Melting Point	24 to 26
Setting Point	20 to 26

The setting point may be used in lieu of the titre and is a very convenient method of testing for hardness (solidifying point). It is performed on the filtered oil in the same manner as the titre, having a low point before rising as in the titre to a maximum recorded temperature.

Sunflower Seed Oil

Spec. Gr. @ 25/25° C.	0.915 to 0.919
nD @ 25° C.	1.472 to 1.474
Iodine Value	125-136
Saponification Value	188-194
Unsaponifiable	Max. 1.5%
Titre	16-20

Coconut Oil

Spec. Gr. @ 99/15.5° C.	0.869-0.874
@ 25° C.	0.917-0.919
nD @40° C.	1.448-1.450
Iod. Value	7.5-10.5
Sap. Value	250-264
Unsaponifiable	Max. 0.5%
Titre	20 to 24
Setting Point	21.8 to 23
Reichert-Meissl No.	6-8
Polenske No.	15-18

Palm Oil

(African and Sumatran)—from the outer pulp or fleshy part of the fruit of Elaeis guineensis.

Spec. Gr. @ 100° F. (37.8° C.)	0.898 to 0.901
nD @ 40° C.	1.453 to 1.456
Iodine Value	44 to 58
Saponification Value	195 to 205
Unsaponifiable	Max. 0.8%
Titre	40 to 47

Color of the crude oil—Orange yellow to dark red.

Classification: Hard and soft oils, according to acidity; the higher the acid content, the harder the oil.

Grades: According to country of origin and method of preparation for the market—color, acidity and impurities—the better grades of good bright color, low in acidity and relatively free from dirt and other insoluble impurities: Lagos and Red Sherbro (among the best), Bonny Old Clabar, Opobo are soft oils. Harder Oils: Congo, Niger, Old River, Gold Coast, and Liberia (poorest grade).

Occasionally, oils from the parings or rinds of the kernel is added to "whole" coconut oil. This causes a considerable rise in the iodine value, generally 11-14, and a lowering of the saponification value and is usually 248-254.

OIL OF MYRRHIS ODORATA

Owing to the shortage of oil of anise, A. McCoubrey and H. S. Walker (*Pharm. J.* 151: 173, 1943) investigated *Myrrhis odorata* (Umbelliferae), a medium sized perennial which emits an odor of aniseed when the leaves are bruised. The yield from one 2,155 Gm. sample of prepared fresh herb was 3.35 Gm. of oil, equivalent to 0.155 per cent. The yield of another 3,230 Gm. portion of the prepared fresh plant was 5.28 Gm. of oil, equivalent to 0.163 per cent. Comparison of the physical properties of the volatile oil of the herb with that of the official oil of anise is given in the following table:

	Sample 1	*Sample 2*	*Ol. Anis. B.P*
Color	Golden yellow	Golden yellow	Colorless to pale yellow
Taste	Sweet	Sweet	Sweet and aromatic
Odor	Like aniseed	Like aniseed	Odor of the fruit
Sp. gr.	0.967 at 20°	0.979 at 20°	0.980-0.994 at 20°/15.5°
Ref. Ind.	1.556 at 20°	1.562 at 20°	1.553-1.560 at 20°
Sol. in 90% alc.	2.0 vols. at 20°	2.1 vols. at 20°	3 vols.
Fr. pt.	10.5°	10.0°	Not below 15°
M. pt.	14.5°	14.0°	Not below 17°

The presence of anethole was established by a series of chemical tests applied to the crystalline mass obtained by cooling the volatile oil to 0° and filtering. Parallel tests were made on the impure anethole obtained from oil of anise. It was found that the volatile oil from *Myrrhis odorata* had an anethole content in the neighborhood of 80 to 85 per cent. This is compared with the B.P.C. statement that oil of anise contains 80-90 per cent of anethole. Hence, if economic extraction of the oil is possible, it may serve to help meet the shortage of anise oil, or serve as a source of anethole. From the standpoint of practical utility the oil has not so fine an odor as anise oil, but it does not freeze so readily.

PECTIN AS AN EMULSIFIER

The potentialities of pectin as an emulsifier are clearly evident in the study made by H. Lotzkar and W. D. Maclay of the Western Regional Research Laboratory, U. S. Dept. of Agriculture. Their report, appearing in *Industrial and Engineering Chemistry* (35:1294, 1943) describes the results obtained when pectin as an emulsifying agent was compared with gum tragacanth, gum karaya and gum acacia in a study of aqueous emulsions of olive oil, cottonseed oil and mineral oil under various conditions. In these tests, emulsions were made up to contain by volume 25, 40, and 60 per cent olive oil, cottonseed oil, or mineral oil dispersed in water whose pH was adjusted by the addition of hydrochloric acid and stabilized with pectin (citrus, 200 grade, rapid set), tragacanth (U. S. P.), karaya (xxx grade), and acacia (No. 1 grade). The emulsifying agent was dispersed in the oil, and then the diluent was added at one time. The mixture was shaken in a jar until emulsified. The coarse emulsion was transferred to a mortar and triturated until smooth. The product was passed through a hand homogenizer (three times) and finally mixed in a Waring Blendor for 10 minutes. Methyl-*p*-hydroxybenzoate (0.1 per cent) was added as a preservative, and the emulsions were stored in the dark at 22° C.

Comparisons with regard to particle size and viscosity showed that in general, the tragacanth-stabilized emulsions are coarse and viscous, the acacia emulsions are fine and fluid, the karaya emulsions are gelatinous, and the pectin emulsions are fine and viscous.

Taking many factors into consideration, comparisons on the basis of stability reveal that there is little difference between pectin and tragacanth as emulsifying agents for olive oil. Both are more effective at the lower pH values. Pectin appears to be slightly better than tragacanth as an emulsifying agent for cottonseed oil. It is possible to make these comparisons because the stability trends of pectin and tragacanth are practically parallel. As an emulsifying agent of mineral oil, pectin is clearly superior to tragacanth and acacia, and is at least equal to karaya.

ITALIAN JASMIN OIL

Two Swiss chemists, Y. R. Nares and A. V. Grampoloff (*Helv. chim. acta* 25:1,500, 1942) have studied the characteristics of jasmin oil extracted from flowers grown in Southern Italy. According to their report, abstracted in the *Manufacturing Chemist*, the flowers were extracted with light petroleum to give the concrete oil from which the absolute oil was obtained by extraction with alcohol. These oils, and the volatile constituents of jasmin flowers, were compared with the similar oil from French (Provencal) jasmin. Both contained benzyl benzoate, a component that has hitherto been overlooked, but in addition to the normal constituents of Provencal oil, the Italian product contained free benzoic acid, creosole (methyl catechol), benzaldehyde, alpha-terpineol, nerol and a large proportion of a new substance (or mixture) with the formula $C_{18}H_{24}O$.

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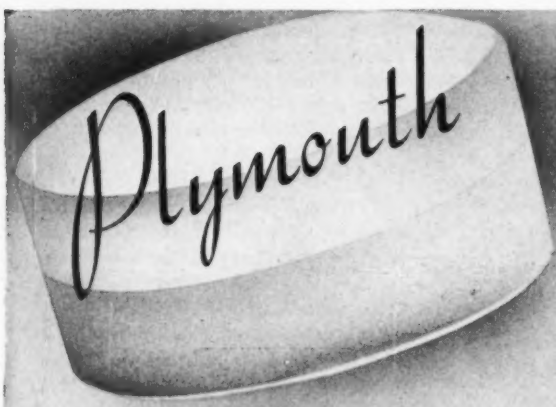

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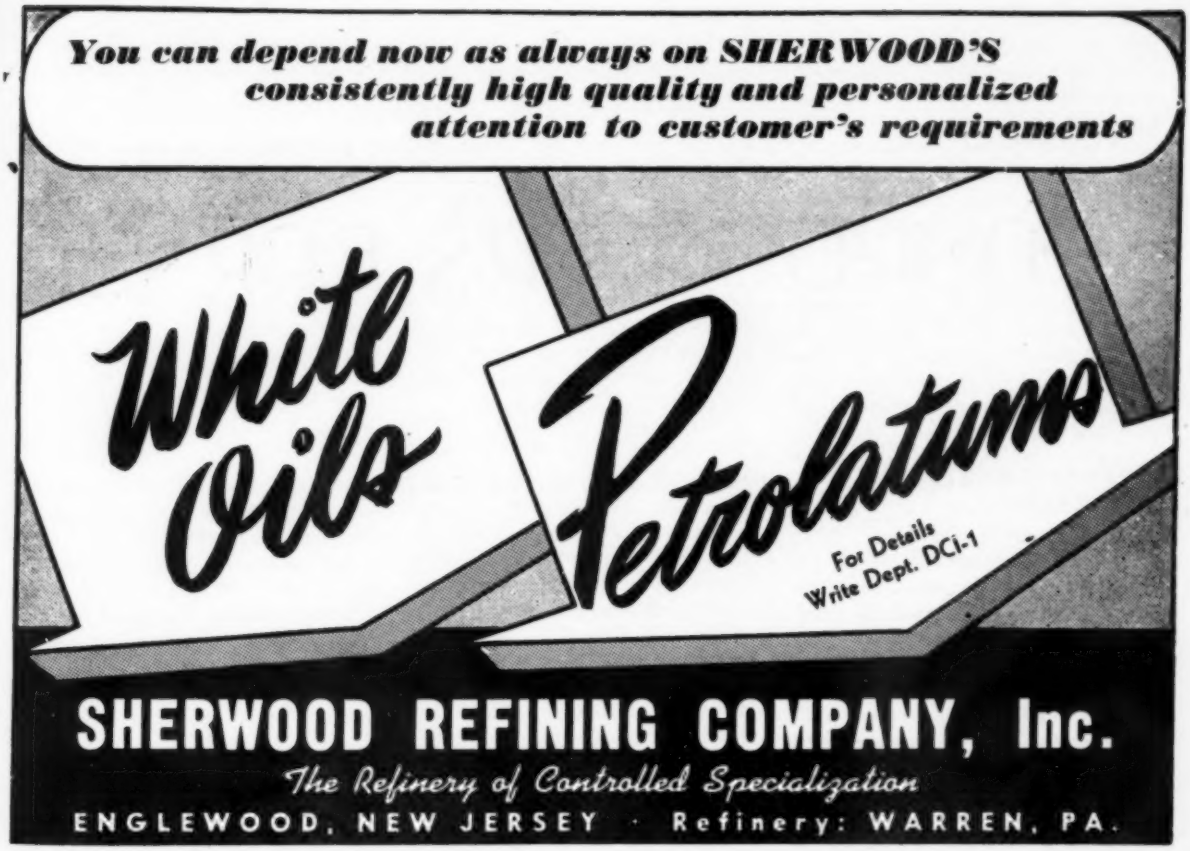
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SPEEDING PENICILLIN PRODUCTION

A note in *Chemical Products* (6:75, 1943) tells that, according to C. E. Clifton of Stanford University, penicillin can be produced on a relatively large scale by an adaptation of a process long used for making vinegar. In the so-called "quick" method for producing vinegar, a tall cylinder is filled with wood shavings on which a mass culture of acetic acid bacteria is induced to grow. Cider, wine or other weak solution of alcohol is trickled down through the shavings, while air is seeped upwards. Vinegar appears at the bottom. Clifton has set up several such columns made of glass and rubber. The shavings are well wetted with a food solution consisting of 4 per cent glucose and 0.1 per cent yeast extract in water, then "planted" with spores of *Penicillium notatum*. After twenty-four hours the nutrient solution was slowly dripped in at the top and permitted to trickle through. The liquid appearing at the bottom, in its ability to kill staphylococcus bacteria, compared very favorably with that of penicillin produced by the slower and more laborious method hitherto in use.

FOLIC ACID AND BLOOD CELLS

One of the newer members of the vitamin B complex, folic acid takes on new importance in connection with white blood cell production, according to the findings of F. S. Daft and W. H. Sebrell as published in the *Public Health Reports* for October 15, 1943. Although a relationship between vitamins and blood cell production had been suggested in previous reports, these investigations definitely link folic acid deficiency with the blood disorders (e.g. leukopenia, granulocytopenia and anemia) sometimes following the administration of sulfonamides and certain other drugs. However, in many instances the cause of the blood disorder cannot be determined. The present studies on rats strongly suggest that folic acid deficiency may be the underlying cause in such cases, but further work along these lines is necessary. Practical application of this work, done with recently available pure folic acid, will probably result in greater safety in sulfonamide therapy.

POWDERED RED BLOOD CELLS

The latest practical suggestion for utilizing red blood cells salvaged from plasma production comes from T. H. Seldon and T. H. Young, of the Mayo Clinic. According to an item in *Science* (Supplement) for November 19, 1943, these workers have successfully employed dried and powdered red blood cells in speeding wound healing. One or two applications of the powder, dusted on the wound or applied with a sterile spatula, are made daily and covered with a dry sterile dressing. The powder has given good results in a variety of wounds including a severe varicose ulcer which did not respond to the usual therapy for eight years. Not all cases were benefited uniformly. In three cases, use of the powder caused severe pain; requiring discontinuance of treatment. Further work with the blood cell powder is needed and the possibility of using red blood cells other than those from humans is suggested as a post-war project when salvaged red blood cells may not be so readily available from humans.

FATTED POWDERS

In a brief review of the formulation of fat-containing cosmetic powders, H. Schwarcz (*Seifenseider Ztg.* 67:354, through *Chem. Abstr.* 37:6820, 1943- points out that acetone can be used advantageously to dissolve or disperse the fatty material; the acetone solution then being mixed with the powder. In a typical example, 5 parts of wool fat are heated to 35° C. and dissolved in 20 parts of acetone. Forty-five parts of starch or talcum are added to the solution. The powder is then dried and finished by the addition of 2 parts of boric acid and 50 parts of talcum.

STABILIZING HAND CREAMS

According to German Patent 718,756, granted to A. Bodensiek, hand creams and similar preparations containing wool fat or its components are stabilized by adding 0.005 to 0.0005 parts of elemental iodine.

EMULSIFYING SOLUTION

British Patent 554,859, recently granted to B. N. Furman, relates to the production of a relatively cheap and permanent emulsifying solution which can be stored for use as required and readily converted into stable emulsions for use in the production of cosmetic creams and other preparations where thick stable cream emsulsions are required. According to the invention a satisfactory emulsifying solution for the production of cream emulsions in the manufacture of cosmetic preparations is obtained by using the ingredients in about the following proportions by weight:

Purified kerosene.....	5 parts
Purified hydrous wool fat.....	1 part
Commercial wool wax.....	1 part

In preparing the emulsifying solution, the kerosene is heated to about 90-100° C. and the purified hydrous wool fat and commercial wool wax stirred in and dissolved.

It is claimed that the use of this emulsifying solution not only results in considerable economies in materials, e.g. in added oils required, but that it

also makes unnecessary the use of expensive emulsifying and homogenizing equipment. Thus a relatively non oily cream or emulsion can easily be prepared by mixing the required quantity of the emulsifying solution with water. For example, 1 to 2 per cent of the emulsifying solution may be mixed with water; the water being added slowly to the emulsifying liquid with continuous stirring. At the beginning of the mixing the water is added very gradually until the brownish tint of the liquid changes to the white color of the finished product, after which the water may be added more rapidly with continued mixing.

Other typical examples of cosmetics manufacture are given as follows:

Toilet Cream

Emulsifying solution	4%
Liquid paraffin	4%
Petroleum jelly	1%
Paraffin wax	½%
Castor oil	½%
Olive oil	½%
Water	to 100%

Cleansing Face Cream

Emulsifying solution	7%
Technical white mineral oil	20%
Refined petroleum jelly	5%
Hard paraffin wax	½%
Water	to 100%

SWEATING OF THE FEET

Hyperhidrosis or excessive sweating of the feet, in itself an unpleasant condition, is very frequently associated with dermatological disorders of these areas. In the army, excessive sweating of this type in its worst forms often results in total incapacity for service and sufferers have to be invalided home. Since therapy based on etiology is only occasionally possible, R. G. Park, of the New Zealand Medical Corps, feels that palliative measures are all that can be offered.

In a letter to the *Archives of Dermatology and Syphilology* (48:538, 1943), Park reports that he and his colleagues use the following routine: twice daily antiseptic soaks, for which a warm solution of potassium permanganate (1:4,000) is the best preparation. The feet are soaked for ten to fifteen minutes and are allowed to dry thoroughly afterward. This should leave a brown tan on the skin; if not, it means that it is not being done correctly or that sweating is so profuse that it immediately washes the stain off the skin. The feet and socks are then well dusted with 3 per cent salicylic acid in talc. This controls the disease in the usual forms. The milder forms may be relieved by use of:

	Gm. or Cc.
Methenamine	0.5
Tragacanth	0.5
Talc	25.0
Water	74.0

This makes a creamy lotion which is easy to spread over the feet and leaves a liberal residue of powder on drying. Action of the acid sweat on the methenamine liberates formaldehyde, which inhibits bacterial growth and hardens the skin, preventing maceration.

DENTIFRICE PATENT

According to British Patent 555,347 granted to the Society of Chemical Industry in Basle, soap-free preparations for the care of the mouth and teeth, which have a good wetting action, foam well and are of satisfactory flavor, are made by incorporating in the usual soap-free preparations of this kind, salts of sulfonic acids derived from benzimidazoles which are substituted in the μ-position by a residue containing 8-16 carbon atoms and are not alkylated at the nitrogen. Especially suitable are the compounds in which the substituent contains 12-14 carbon atoms.

Thus a mixture suitable for the care of the teeth is prepared by incorporating 2 parts of the sodium salt of sulfonated μ-undecyl-benzimidazole with 98 parts of a tooth paste mixture of a usual composition and free from soap, with or without the addition of salts or sulfonated fatty acids.

ANTISEPTIC AND PRESERVATIVE

Although its chemical composition is a trade secret, various reports indicate that a comparatively new chemical substance, known as Perm-Aseptic, may have important applications wherever bacteriological control is an important consideration, including cosmetics and related preparations. Available as a clear, odorless, tasteless liquid, extensive laboratory tests show that Perm-Aseptic is not only highly bactericidal and stable, but is nontoxic and non-irritating when used in the recommended concentrations. Standard tests give it a phenol coefficient of 15, and the germicidal action is said to be very persistent, even in the dry state.

Perm-Aseptic has already been accepted as a antisepticizing agent for fabrics, more especially baby clothes and diapers and may also be employed for treating surgical masks, hospital sheets and the like. Its usefulness in products of this type, which come into such intimate contact with the skin, immediately suggests its employment as a preservative for cosmetics since in addition to its germ-killing properties it is also effective against certain fungi. Equally important is the antiseptic action which may be imparted to cosmetics.

Already said to be used by certain manufacturers of cosmetic stockings, the producers of Perm-Aseptic state that it is effective in such products as well as face creams and lotions in a concentration of 1:500. In liquid preparations, dilutions up to 1:1,000 may be used. Experiments are now going on to determine the optimal concentration of Perm-Aseptic in deodorant liquids.

INCREASING PENICILLIN POTENCY

The findings of J. Unger, as reported in *Nature* (152:245, 1943), indicate that the action of penicillin can be significantly increased by the addition of para-aminobenzoic acid (PABA) or sulfapyridine.

Unlike the sulfa drugs, which are inhibited in their antibacterial action by the presence of the acid, PABA steps up penicillin's action against susceptible organisms. Thus, a solution of sodium penicillin was found to be active against *B. subtilis* in the rather high concentration of 1:100. Addition of PABA in concentrations of from 1:2,500 to 1:10,000 resulted in penicillin becoming effective in concentrations as dilute as 1:6,000. Similar effects were noted when the combination was used against *Staphylococcus aureus*, but the conjunct use of PABA and penicillin had not effect against *Streplococcus hemolyticus*.

Combining sulfapyridine and penicillin resulted in an even more marked effect. Tested alone, the sulfa drug had no inhibitory against staphylococcus growth in concentrations up to 1:2,000, while a solution of sodium penicillin required concentrations up to 1:30,000 to inhibit the growth of these organisms. When sulfapyridine was added to this penicillin solution in concentrations up to 1:50,000, the resultant mixture was found to be inhibitory up to 1:70,000. These *in vitro* experiments were also confirmed in experiments with mice.

It is believed that the results observed are due to the synergistic action of the two compounds on the bacteria, or perhaps to a chemical action between the compounds, but this last is probably less likely to occur.

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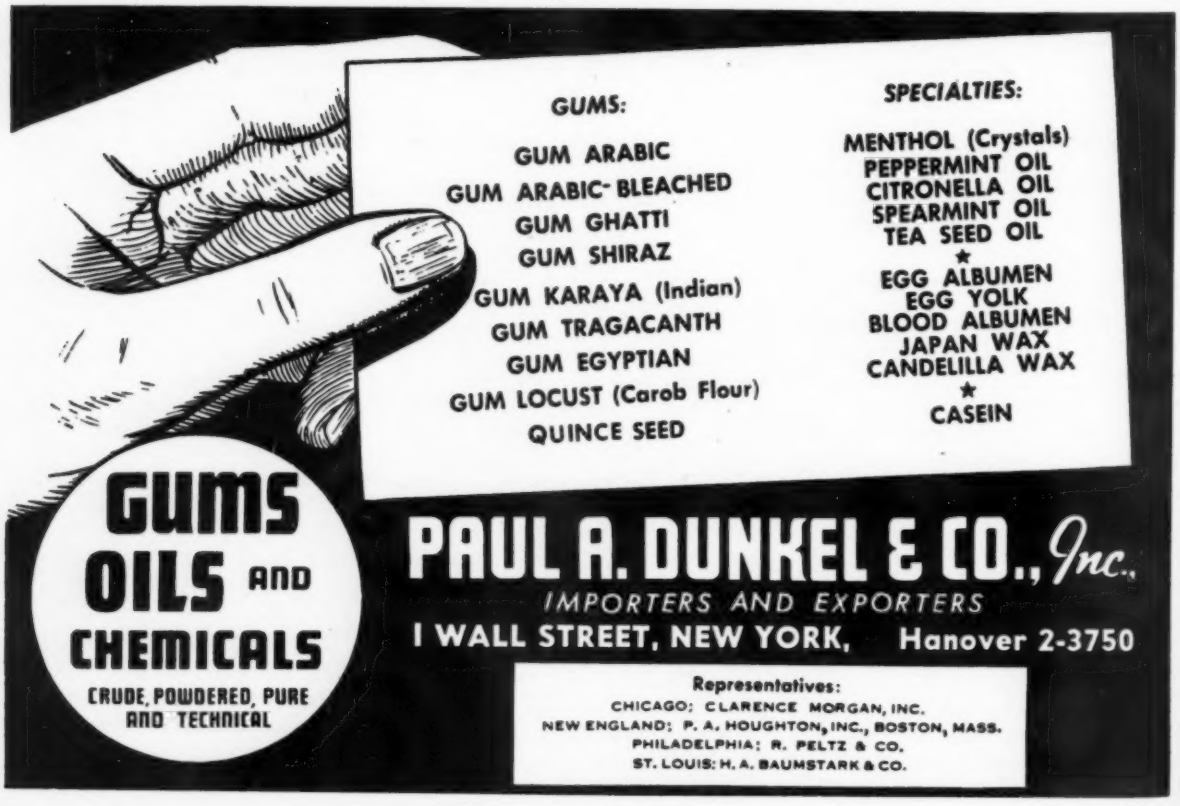

ADVANCING THERAPY

B VITAMINS IN PSYCHOSIS

From experience with two cases, B. F. Hart and W. T. McConnell (*Am. J. Obst. & Gynec.* 48:304, 1943) feel that toxic psychosis of pregnancy and the puerperium may in some cases be associated with disturbances in vitamin B metabolism. One case with pernicious nausea and vomiting became worse on the usual therapy. Intravenous administration of moderately large doses of vitamin B components for three days ended the nausea and improved both the neuritis and psychosis which had developed. Continued intense oral therapy resulted in disappearance of all symptoms and permitted normal delivery. In another case, psychosis followed a cesarean delivery. She was given 300 mg. each of nicotinamide and thiamin chloride in divided doses during the first 12 hours and a total of 900 mg. of each over 72 hours. The mental condition cleared in 24 hours without recurrence of symptoms. Niacin is believed to be the most important factor in the treatment, which is suggested for trial in patients who develop psychosis after severe infections.

PENICILLIN VS SYPHILIS

In a paper presented at the recent meeting of the American Public Health Association, J. F. Mahoney of the U. S. P. H. S. made a preliminary report on the treatment with penicillin of four cases of early syphilis. This work, done in collaboration with H. C. Arnold and A. Harris, yielded remarkable results. Each of the four patients with primary syphilis received 25,000 units of penicillin intramuscularly every four hours, day and night, for eight days; making a total dosage of 1,200,000 units. In the four months that had elapsed since the treatment had been completed, the patients were checked at weekly intervals; seven different serological tests being utilized. All have remained negative with the exception of a doubtful reaction in one case.

Because it is a disease which tends to relapse after varying periods of freedom from syphilitic symptoms, prolonged observation of large groups of patients will be required to verify the promise held out in this preliminary study. The final evaluation of penicillin therapy will rest upon its effectiveness in syphilis of many years' duration and involving organs which are not affected in the early stages of the disease. The availability of penicillin will undoubtedly be an important factor in further investigations along these lines.—*Quarterly Bull. (N.Y.C. Dept. Health)* 11:44, 1943.

THIAMIN SYNTHESIS IN HUMANS

Although it has long been known that certain animals are able to produce vitamin B_1 in their bodies, the work of V. A. Najjar and L. E. Holt Jr. (*J. A. M. A.* 123:683, 1943) indicates for the first time that biosynthesis of thiamin can occur in man. A group of nine young men was given a special diet; the thiamin content of which was gradually decreased to insure complete depletion of all vitamin B_1 reserves in the body. Then the thiamin intake was omitted altogether. During the next three to five weeks, 4 of the subjects developed definite clinical signs of thiamin deficiency, 1 showed questionable symptoms, but the remaining 4 failed to reveal any signs over a seven-week period. Examination of the stools of subjects with marked deficiency symptoms failed to reveal any trace of thiamin, whereas those who remained symptom-free had large quantities of thiamin in the feces. Administration of succinylsulfathiazole to one of these latter subjects resulted in prompt reduction in free thiamin in the stool.

The evidence now available indicates that the thiamin found in the symptom-free subjects was formed by bacteria present in the large intestine. How long the thiamin requirement can be sustained by the vitamin B_1 formed in the intestine cannot yet be answered and it may be that minute amounts of oral thiamin are needed for the growth of the bacteria which synthesize this substance. This work, it is felt, may also help to explain the discrepancies in thiamin requirements found by different observers. The inhibition of thiamin biosynthesis by sulfa drugs should be considered when these bacteriostatic agents are prescribed.

SULFANILAMIDE IN SMALLPOX

From observations on 11 cases of smallpox, J. D. Cottrell and H. T. Knights (*J. Royal Army Med. Corps* 81:7, 1943) find that administering sulfanilamide has definite effects in this disease. In these cases the use of sulfanilamide was an addition to the usual general and symptomatic measures. Treatment with the sulfa drug was commenced as soon as the vesicular stage was reached, and the average total dose was 22.5 Gm. given over six days. The main effect of the sulfanilamide appeared to be the reduction of complications due to pyogenic organisms; no effect was detected on the essential virus. There was definite mitigation of suppuration in the skin lesions, a lessening of ocular complications and a reduced incidence of pulmonary complications. Instead of a true pustular stage there was a vesicular stage in which the vesicular fluid was slightly milky and not yellow even in cases with a fatal outcome. The process was later one of desiccation and desquamation rather than of the classic pustulation and scabbing.

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ETHYL CHLORIDE FOR TINEA INFECTIONS

In the South Pacific, according to N. Bogard (*Arch. Dermat. & Syphil.* 48:511, 1943), treatment of lesions caused by the tinea group of fungi with ethyl chloride has given uniformly excellent results; the method being superior to any fungicide now used. It has been found that any tinea lesion, regardless of where it appears and whether it is acute or chronic, may be treated with ethyl chloride. Ethyl chloride is easily applied and, except for surfaces which are closely covered, such as the feet, requires no bandages. Vesicles should never be opened when this agent is used. The ethyl chloride is sprayed on only until the temperature of the skin has been lowered sufficiently to bring out the white surface. In a few instances, the spray may be held for two or three seconds longer. The drug quiets the intense reaction with the second or third application, produces no sensitization dermatitis and aids natural responses toward healing. The inflammation and pain associated with tinea lesions of the fingers, which make it difficult to flex the fingers, both disappear after the second application, as does the itching. With chronic indurated lesions the spray is never felt until the inflammation has largely subsided, a favorable index. There are no contraindications to the use of ethyl chloride, but no other drug or dye should be used in conjunction with it.

LOCAL APPLICATION OF PENICILLIN

According to the *Pharmaceutical Journal* (151:193, 1943), an important discussion on penicillin took place at the Royal Society of Medicine on November 9. During the meeting, D. C. Bodenham gave an account of the treatment of localized streptococcal and staphylococcal infections by direct applications of penicillin. Three methods of diluting penicillin had been adopted. The first consisted of penicillin dissolved in water, the strength varying from 100 to 500 units per mil. Then the need arose for a powder to be applied to the wound with an insufflator. A neutral diluent was chosen in the form of powdered sulfanilamide with which was mixed 5 per cent of light magnesium oxide, which could be autoclaved. When cooled it was shaken with penicillin powder to give a final strength of 1,000 units of penicillin per gram.

An ointment was also made which could be applied to granulating surface. Lanette wax SX. 33 per cent, soft paraffin 33 per cent, and water to 100 per cent, were taken and autoclaved at 10 lb. pressure for 20 minutes, and when cooled, the penicillin solution, which had been prepared beforehand in the strength of 500 units per mil, was mixed with it. The strength which had been used for most of the infected surfaces had been 100 units per gram. Bodenham also discussed the value of penicillin treatment in various kinds of wounds. Response had been good in surface wounds, such as burns, to which 100 units of penicillin cream per gram had been applied every 24 or 48 hours. In view of the fact that other factors had to be taken into consideration, penicillin alone could not be expected to heal more complicated wounds. Such cases called for surgical treatment to convert the cases to simpler types, such as surface or "gutter" wounds, where penicillin could be used with advantage.

SULFATHIAZOLE FOR "TRENCH MOUTH"

Infections of the mouth and throat caused by the fusospirochetal group of bacteria are encountered frequently in military medicine and during the last war the condition known as "trench mouth" was quite common. A variety of therapeutic agents have been employed to treat infections of this type, with varying degrees of success. In the series of cases reported by F. G. Hirsch and C. L. Spingarn (*Milit. Surgeon* 93:237, 1943), moderate doses of sulfathiazole, e.g. 4 Gm. daily, for periods ranging from two to six days were effective in controlling fusospirochetal infections of the mouth and throat. This form of treatment is well tolerated and results in prompt relief of symptoms and healing of lesions. In addition, the treatment has the advantages of speed and simplicity.

TREATMENT FOR HEAD LICE

Control of pediculosis capitis (head lice) is an important part of the methods devised to control typhus fever. Although many methods and agents have been employed for this purpose, W. A. Davis (*J. A. M. A.* 123:825, 1943) found that few if any procedures were ideal. He felt that the ideal method for treating pediculosis capitis should be by a lotion, since only a liquid can easily penetrate the entire hair and leave a residual for prolonged action. The fluid should rapidly kill lice and nits, should not have unpleasant properties such as greasiness, staining or odor, and should be both cheap and lasting.

Systematic laboratory investigations by the Rockefeller Foundation revealed that phenyl cellosolve and benzyl cellosolve were most efficient. Preliminary trials having established their action and safety, clinical treats were made in a New York hospital and in a Mexican village. In New York, the formula used was:

Phenyl cellosolve	40 per cent
Ethanol	30 per cent
Water	25 per cent
Methyl salicylate	5 per cent

The lotion was applied to the head so as to thoroughly wet the hair taking care to keep the fluid out of the eyes and mouths of the children. No further treatment was used. The results proved quite satisfactory. No live lice were ever found after a single treatment and no irritation observed except a mild brief tingling if the lotion were rubbed into the scalp.

In Mexico, studies on delousing of entire villages were made, the formula used consisting of:

Phenyl cellosolve	1 gallon
Ethanol	2 gallons
Water	2 gallons
Methyl salicylate	sufficient to odorize

Examination of about 200 heads one week after treatment failed to reveal a single louse.

NICOTINIC ACID FOR ASTHMA

A. Melton (*Brit. Med. J.* 1:600, 1943) is of the opinion that nicotinic acid is of definite value in the treatment of asthma. He has found the drug useful in diminishing the frequency and severity of the attacks when given over long periods of time. From the study of nineteen cases it was concluded that the average dose may be 50 or 100 mg. intravenously two or three times daily, but that to increase the dosage above 100 or 200 mg. daily is advantageous in cases which do not improve. Although the drug appears to be nontoxic in most cases, it can produce unpleasant symptoms. The author feels that it should be regarded as an adjuvant in the treatment of asthma, particularly when adrenalin and ephedrine are proving ineffective, or when ephedrine cannot be taken because of toxic symptoms. In the treatment of children half the adult dosage was used. Definite improvement was obtained in sixteen of the nineteen cases which were studied.

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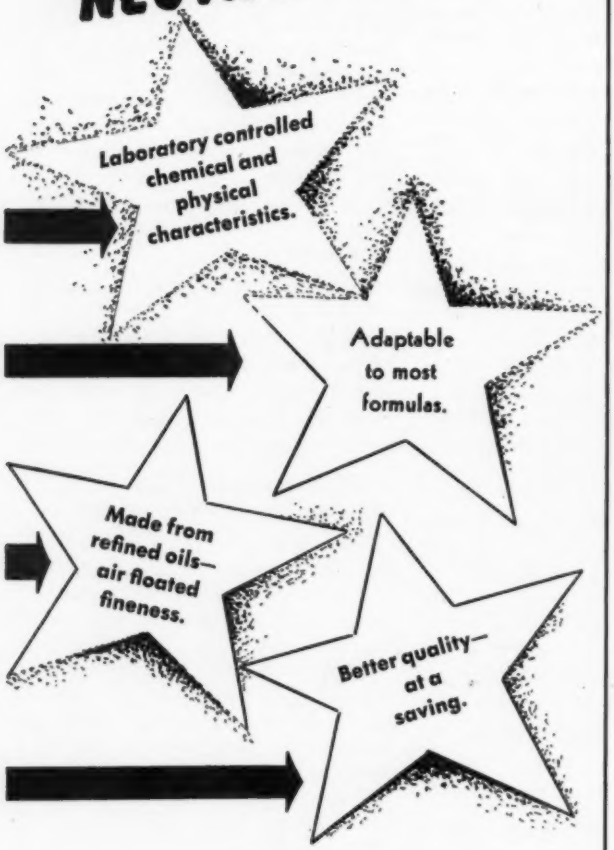
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Up		
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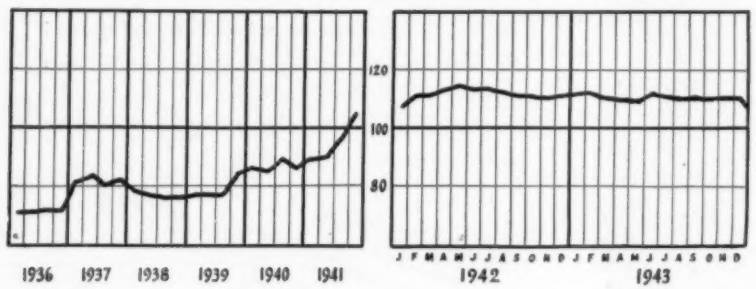
Elm bark 5c	Lemon grass oil 25c	No. 2, 75c
Gentian root 2c	Petit grain oil 15c	Witch hazel leaves 2c
	Saffron, Spanish $3	

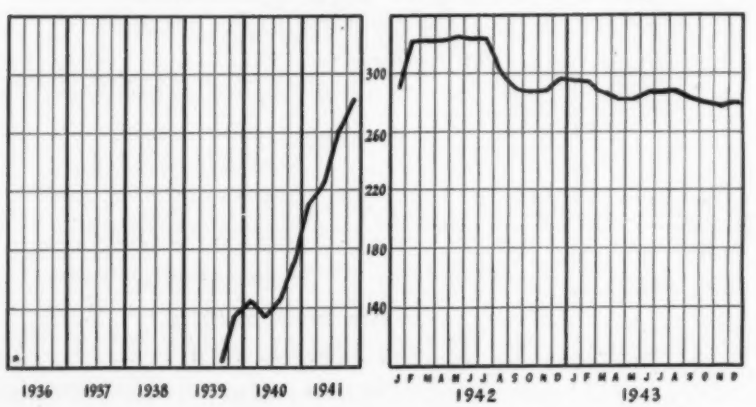
Down		
Aconite root 35c	Balsam Peru 15c	Rhubarb root HD 25c
Mercury $3	Citronella oil, Ceylon 5c	Sarsaparilla root, Hond. 14c
Arabic gum sorts 1½c	Papain Powd. Pure 70c	Vanilla beans, Bourbon 25c

25 Cosmetic Raw Materials—Unweighted Price Index. 1926=100.



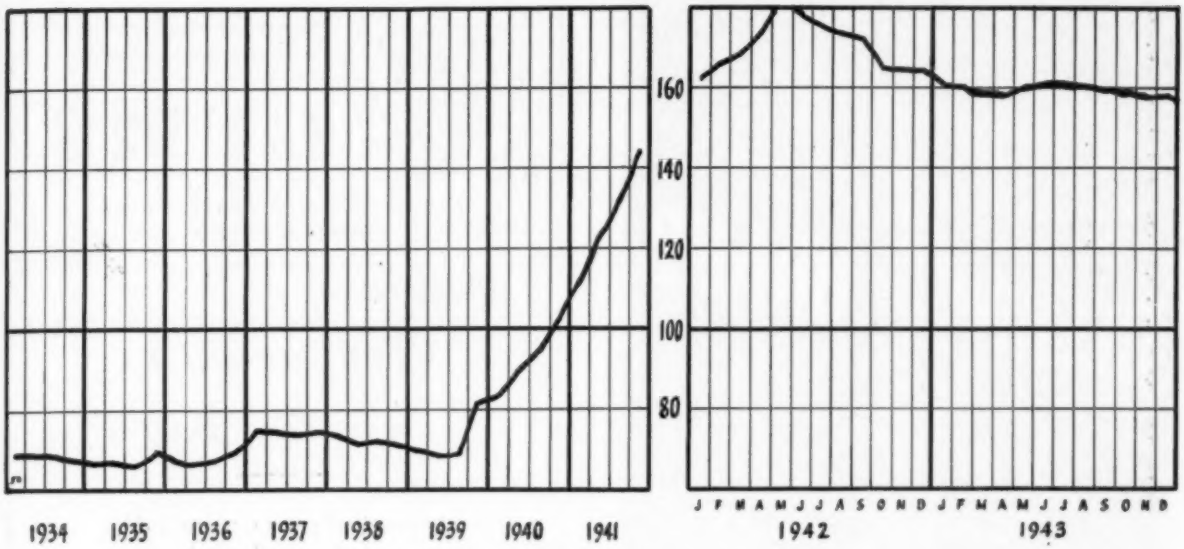
The cosmetic raw materials index declined to 103.7 from the previous 113.2. Balsam Peru dropped 15 cents a pound to $1.10; tragacanth No. 1 gum rose to $5. A mixed trend was noted in the gum market. Arabic sorts sold on large lots at as low as 13 cents. Supplies of arabic are ample. Tragacanth, however, was under manipulation by those who rightly have no place in the trade. Prices are high and gum seemed scarce.

15 Botanicals—Weighted Price Index. 1926=100.



The botanicals index declined fractionally to 283.4 from the previous 283.9. Gentian rose from 45 cents to 47 cents a pound but rhubarb declined rather sharply to $1.15 a pound. Shortage of domestic botanicals was a year-end feature and most attempts to secure goods from the country in lots even less than one hundred pounds usually result in failure because the goods are simply not there.

50 Raw Materials—Weighted Price Index. 1926=100.



The price index of fifty commodities for December, 1943, declined fractionally to 158.1 from the previous 158.6. The final period of 1943 proved to be reasonably quiet in all markets. Commodities moved less actively and affairs were in line with ordinary experience as each year draws to a close. There were comparatively few price changes. The continued downward revision of vitamin prices might be said to represent the trading feature.

• Prices quoted in this section were current on the first of this month.

SHORTAGES

Toilet goods manufacturers are going to reclaim scarce shipping boxes from stores to forestall a possible drastic curtailment in the distribution of their products next year, it was disclosed recently.

This threat to the delivery of cosmetics stems from the general paper shortage, said the Toilet Goods Association, which represents about 90 per cent of the manufacturers of toilet preparations.

The organization said that under the plan a centrally-located paper dealer in large cities would collect used shipping boxes from drug and department stores and return them to the various cosmetic companies.

Manufacturers have been limited to 65 per cent of the number of containers used in 1942, and a shortage of certain types of jars and bottles also has affected operations.

Clear glass bottles and jars are scarcer than colored or frosted containers because they have been used extensively by food distributors to pinch-hit for tin cans.

The industry, however, has sufficient raw materials now, after recent shortages.

Manufacturers were hit hard by decreased alcohol supplies and now are limited to about 50 per cent of normal, or 2,250,000 gallons a year. This affects products like hair tonic, hand and face lotions, cologne and toilet water. To overcome this, six-ounce bottles of cologne, for instance, were replaced by one-ounce containers of perfume.

Glycerine supplies were tight once, but no longer represent a problem because good substitutes have been found and the housewife fat-saving campaign helped build up supplies. More glycerine goes into dentifrices than any other toilet preparation and some goes into creams.

Castor oil from Central and South America is freely available now although it was in tight supply during the peak of the enemy submarine campaign. This product is used in lipsticks and hair tonic.

Talc supplies imported from France and Italy ran low until domestic facilities were tapped. Dyes also became a problem for a while but are adequate now.

ALLOCATIONS

You may purchase three kilograms of acid ascorbic—M-269 in each calendar month without direct authorization or certification. For quantities in excess of three kilos your order must contain a statement of the end use.

To obtain quantities in excess of 25 lbs. of any bismuth chemical—M-295 during any calendar month, you must submit application WPB-2945.

Pharmaceutical manufacturers are no longer required to receive direct authorization from the WPB on caffeines and theobromines—M-222, but it is necessary for the supplier to obtain authorization from the WPB to make delivery. Your orders for quantities in excess of 2 lbs. of either caffeines or theobromines must be accompanied with a certification of end use.

To obtain a quantity of niacin—M-315 in excess of 5 ounces during any calendar month, application on Form WPB-2945 must be made.

To obtain a quantity in excess of 5 grams of riboflavin—M-299 during any

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calendar month, application on Form WPB-2945 must be made.

To obtain a quantity of thiamine hydrochloride—M-314 during any calendar month, application on Form WPB-2945 must be made.

ZINC OXIDE

Lead-free zinc oxide was placed on allocation by the War Production board December 29th through issuance of an amended version of General Preference Order M-11-a.

Deliveries of two tons or less are exempted. It is estimated that this exemption will affect only about 5 per cent of the total amount produced. The permitted uses cover not only the quantities under allocation, but also shipments of two tons or less.

This order came as the climax to a long period of drastic restrictions on the purchase of lead-free zinc oxide. AA-5 ratings or higher were required for the acquisition of any quantity over a ton.

The shortage arose from the stepped-up demands of the rubber industry and for chemical warfare, in addition to normal demand from the paint industry.

MERCURY

The spot price of mercury has worked down to $190 to $193 per flask according to quantity but local operators find and report the market to be very quiet. There is also reported to be very little activity on the Pacific Coast where, on the basis of the spot price, values should be about $186 at the mines. It is generally anticipated that the turn of the year will see a revival of buying interest in this item.

The medicinal chemical index declined fractionally to 125.5 from the previous 125.6. The decline of mercury to $190 a flask accounted for the change in this group of commodities. Menthol continued to be widely discussed. It now seems that earlier estimates of production in Brazil were exaggerated. Factors in South America apparently sold more menthol than they could possibly produce.

PEPPERMINT

Final figures on the peppermint oil crop of 1943, together with the acreage cropped, have been released by the Bureau of Agricultural Economics of the Department of Agriculture, and they disclose a drop of 70,000 pounds of oil from the production estimated by the Crop Reporting Board and issued early in September. The final data are:—

Production

	Pounds	
	1943	*1942*
Indiana	286,000	595,000
Michigan	234,000	522,000
Ohio	4,000	6,000
California	25,000	31,000
Oregon	122,000	162,000
Washington	144,000	119,000
Totals	815,000	1,435,000

Acreage

	Acres	
	1943	*1942*
Indiana	15,900	17,500
Michigan	13,000	17,400
Ohio	120	130
California	690	765
Oregon	3,500	3,600
Washington	3,500	2,700
Totals	36,710	42,095

Yield

	Pounds	
	1943	*1942*
Indiana	18	34
Michigan	18	30
Ohio	37	46
California	36	40.5
Oregon	35	45
Washington	41	44

Of the six reporting States, only Indiana exceeded the September estimate, producing 26,000 pounds more than expected. Michigan produced 62,000 pounds less; Ohio equalled the September estimate; California cut was 7,000 pounds; Oregon output was 11,000 pounds under the estimate, and Washington realized 1,000 pounds under the forecast.

SULFA DRUGS

A further reduction in the price of sulfathiazole USP, and sulfathiazole sodium was announced during the current trading period. The following schedule is now in effect: 100 lb. drum, $3.15 per lb.; 25 lb. drum, $3.30 per lb.

MENTHOL

News concerning the probable price at which new crop Brazilian menthol will be sold suggested a market around $27 per kilo instead of the official $29 asked by the Bank of Brazil.

Harvesting of the Brazilian peppermint herb crop has not begun as yet. Allowing for a period in which to produce the oil, there remains also a period in which the menthol must be extracted and exported.

The situation in Brazil is not at all clear. It seems, though, that Brazilian production is done by Japanese who migrated to Brazil about fifty years ago but there have been intimations that some officials in the Bank of Brazil are interested financially in menthol production in that country.

On spot the market was characterized by increased consumption of products containing menthol. Some of the larger manufacturers of such products are known to carry substantial stocks of menthol. But there are plenty of potential buyers in this country who are watching the Brazilian market closely.

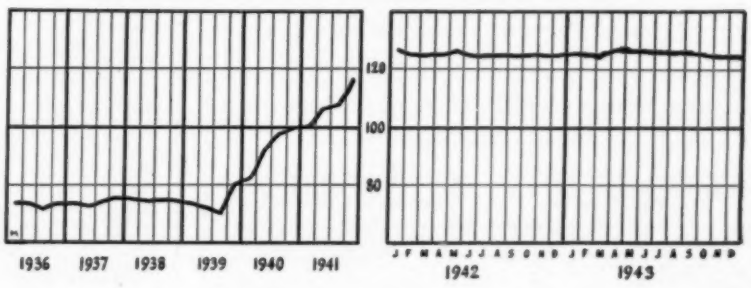
VITAMINS

Ascorbic Acid USP XII was reduced during the current trading period and is now quoted as follows: 30 ko. drum, $30 per kilo; 10 ko. drum, $30.35 per kilo; 1 ko. drum, $32.41 per kilo; 125 gram bot., $4.25 per bot.

Thiamine hydrochloride USP was also reduced further by $15 per kilo. One hundred gram bottles or larger are now offered at $250 per kilo. Five gram bottles are 28c per gram.

Manufacturers also announced a reduction of $50 per kilo in the price of riboflavin. One hundred gram bottles or larger are now offered at $380 per kilo; 5 gram s.c.b. 41c per gram; 1 gram s.c.b. 48c per gram.

15 Medicinal Chemicals—Weighted Price Index 1926=100



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VANILLA

The vanilla bean market was quiet on spot. Manufacturing requirements were well covered from Madagascar arrivals in October. Unsold Bourbon beans on spot, however, are light and importers had no assurance that additional supplies could be expected in the near future. The situation as far as Madagascar futures is concerned was shrouded in uncertainty. When shipping is available beans will be forthcoming. Prices on spot ranged from $8.25 to $9 a pound.

All grades of Mexican beans were light on the spot market during the period under review. Mexican cuts are not expected to arrive here until March/April. Spot price of cuts range from $8.00 to $8.50. Whole Mexican beans are offered at from $9.25 to $10.75 per pound. A fair size Mexican production is predicted.

EUCALYPTUS OIL

Chile's annual production of oil of eucalyptus recently was estimated by unofficial sources of that country at 12,000 liters. (The weight of 1 liter of eucalyptus oil is estimated as 900 grams.)

OLIVE OIL

Portugal's 1943 production of olive oil is estimated at 80,000,000 liters, compared with 38,000,000 liters in 1942 and 100,250,000 liters in 1941, according to a foreign newspaper. Because of the scarcity of animal fats, all but 10,000,000 liters will be needed for domestic consumption.

CASTOR OIL

The War Food Administration has suspended allocation of castor oil, with one use exception, for the period of January 1, 1944, through March 31, 1944, thus extending for three months the current suspension order which became effective October 1, 1943. The extension (by amendment to FDO No. 32) is made possible by the continued improvement in inventories of both castor oil and the beans from which it is crushed.

The single exception in the new suspension order involves the use of castor oil in the production of paint-reducing oils.

Although allocation of castor for other uses is suspended by the amendment to FDO No. 32, the aggregate use of all fats and oils (including castor) in manufactured products is regulated in a general order, FDO No. 42.

The new suspension order does not change the reporting requirements which provide that persons accepting delivery of castor oil in excess of 1,000 pounds per month (3,000 pounds per quarter) for use or processing into other products should file monthly and quarterly reports with the Bureau of the Census on forms BM-1 and BM-2. Wholesale and retail distributors, however, are not required to file these reports.

ALCOHOL

Representative Ellsworth (Rep., Ore.) said that Oregon will be the site of the first commercial plant in this country to produce alcohol from sawdust and wood waste.

Ellsworth said he had been informed by Government officials that the application of the Williamette Valley Wood Distillation Co. to construct a $3,600,000 plant at Eugene, Ore., to produce alcohol from wood would be approved when final details were completed.

ALOES

During the quarter ended September 30, 1943, production of aloes in the Netherlands West Indies amounted to approximately 2,000 cases, a 100 per cent increase over the output of 1,000 cases during the first half of 1943.

During the first 9 months of 1943, 1,100 cases were exported and stocks on hand on September 30 were estimated at 1,900 cases.

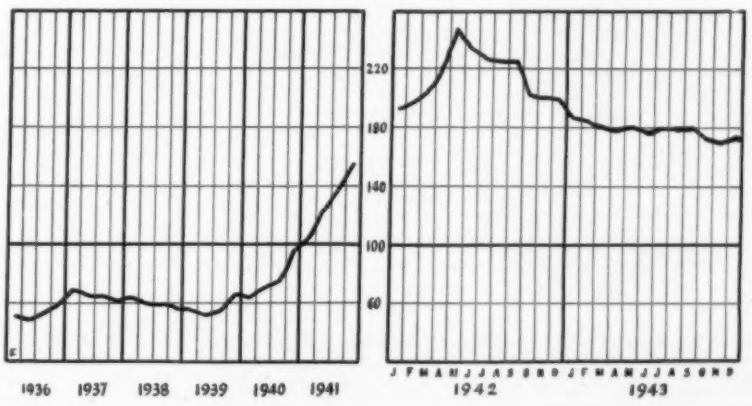
About 75 per cent of the crop has been harvested. Work has been suspended because of the labor shortage and high wages.

OLIVE OIL

Decision by the government on the request of the olive oil importers for a relaxation of restrictions on imports to permit a large volume of olive oil being brought in from Spain will have to await the final determination of the government on the whole question of fats and oils supplies and their disposition, which is now under survey.

It is reported that discussions on the worldwide fats and oils situation are now in progress and it is not possible at this time to answer any specific inquiries from the industry on the situation.

15 Essential Oils—Weighted Price Index. 1926=100.



The essential oil index declined to 181.6 from the previous 182.1. This was occasioned by a drop of 5 cents per pound in the spot market price of Ceylon citronella oil. The route from Ceylon to this country seems open sufficiently to keep a fair amount of material moving to consumers. Dealers also have reason for hope that Federal agencies will eventually bring about a resumption of raw material shipments from retaken territories in North Africa, Sicily, and Italy.

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READERS'

CREAM HARDENING AND DEODORANT CREAMS: I have been making vanishing creams with glyceryl monostearate, but in spite of everything I do, they have no body, and when left uncovered several days the creams harden on top. I have several face creams on the market and would like to have a deodorant and antiperspirant cream. Please help me. Guatemala City.

Leaving any cream containing water uncovered for several days is a great mistake, since evaporation is bound to take place, especially if a large area is exposed to the air. While a certain amount of crust formation does occur in the manufacture of emulsion creams these are broken up by stirring during the process of manufacture, but probably the chief reason for the formation of a crust in your cream lies in the fact that you do not cause complete emulsification, with the result that the oily and watery layers separate. It is of importance in preparing creams that the aqueous and fatty portions be mixed at the same temperature and that a high speed mixer be used.

A typical deodorant cream containing glyceryl monostearate may be prepared from:

Glyceryl monostearate	20.0%
Glycerine	10.0%
Methenamine	3.0%
Water	67.0%

AIR DEODORIZER: Please let me have the formula by which preparations similar to "Airwick" are made. Baltimore.

As far as is determinable the formula for "Airwick" has not been made public, and its composition is not known. An air deodorizer of the volatile type can be made as follows:

Naphthalene	730 Gm.
Camphor, Synthetic	70 Gm.
Hexachloroethane	20 Gm.
Paradichlorobenzene	100 Gm.
Bornyl Acetate	50 Gm.
Eucalyptol	30 Gm.

Melt naphthalene on the water bath, add camphor, and later hexachloroethane and paradichlorobenzene. When all is dissolved, cool to 80° C., add bornyl acetate and eucalyptol.

PROPYL GALLATE AND SOLIDIFIED RUBBING ALCOHOL: In the October issue of DRUG & COSMETIC INDUSTRY *there is an article on antoxidants which mentions propyl gallate. Can you furnish us with a source for this material? Also, I have been looking for a formula to make solidified alcohol. Could you help me out with this? Cincinnati.*

The article which mentioned the use of propyl gallate as an antoxidant for fats was an abstract of work recently done in England. A check of American producers indicates that propyl gallate, known in England as Nipa 49, is not yet available in this country.

With regard to the second question, I would suggest that you try the following procedure on an experimental basis to make a solidified rubbing alcohol:

QUESTIONS

Alcohol	1000.0 cc.
Stearic acid	60.0 Gm.
Caustic soda	13.5 Gm.

Dissolve the stearic acid in 500 cc. of the alcohol, and the caustic soda in the remaining alcohol. Warm to 60° C., mix, and allow to solidify.

CREAM COLOGNE: We wish to market a cream cologne and would appreciate any information you may have on the subject. Milwaukee.

The following has been suggested as typical of cream cologne formulas:

Stearic Acid	5.0
Cholesterin	1.0
Cetyl alcohol	0.5
Mineral oil	10.0
Water	8.5
Triethanolamine	2.5
Perfume oil	0.5

The mineral oil, stearic acid, cholesterin and cetyl alcohol are heated together to 85° C. under constant stirring, care being taken that the cholesterin is completely dissolved. The triethanolamine and water are now mixed separately and likewise heated to 85° C. This solution is now added to the warm oil mixture under constant stirring. This combination must be effected by pouring the triethanolamine solution in a steady even stream, avoiding the formation of air bubbles. When the entire mixture has cooled somewhat, the perfume oil may be added.

VANISHING CREAM PRESERVATIVE: We are interested in a vanishing cream such as is described in the DRUG & COSMETIC REVIEW, *1942-3, page 341. On this page are given formulas for several vanishing creams with the statement "preservative 0.1%." We have read over the article but have not found the ingredient used as a preservative. We would appreciate information concerning such a preservative. Dayton.*

Methyl para-hydroxybenzoate is generally recommended as a preservative for vanishing creams.

COLD PERMANENT WAVES: We are very much interested in the so-called "cold" permanent wave process. Will you be good enough to favor us with information on this subject? New York.

Most of the processes utilizing the "cold" permanent wave method are patented. The action in most of these methods depends on chemical softening of the keratin in the hair to permit moulding and shaping. The processes are quite completely described in the various patents, copies of which may be obtained from the U. S. Commissioner of Patents in Washington, D. C., at 10 cents per patent. The following patents will cover the subject quite adequately: U. S. Patents 2266111, 2183894, 2087953, 2056358, 2016709, 2068809.

Some manufacturers who supply materials for making cold permanent wave preparations, such as the producers of thioglycollic acid, also provide formulas using their materials.

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SOAPLESS HAIR SHAMPOO IN POWDER FORM: We are interested in a formula for a foaming soapless hair shampoo containing sodium alkyl sulfate. We have enough of the wetting agent on hand for experimental purposes. Would you please suggest a formula of this type in powder form? Milwaukee.

No formula which specifies the use of sodium alkyl sulfate has come to our attention. However, on an experimental basis it is suggested that you try the following:

Synthetic detergent	50 Gm.
Borax	25 Gm.
Boric acid	25 Gm.

Mix the borax and boric acid intimately and allow the water liberated to evaporate naturally or by gentle heat. Powder the resulting mass and incorporate the synthetic detergent; which in your case would be sodium lauryl alkyl sulfate.

Another experimental formula which might be tried is as follows:

Synthetic wetting agent	20 Gm.
Anhydrous sodium sulfate	80 Gm.
Perfume	q.s.

DEODORANT CREAM AND BLACK HAIR DYE: Will you send us a safe and effective deodorant cream, and black hair dye formula at your earliest convenience? Hollywood.

A typical deodorant cream can be prepared from:

Zinc sulfocarbolate	2.0
Boric acid	10.0
Zinc stearate	19.0
Colloidal clay	3.0
Glycerine	22.0
Talc	5.0
Water	38.0
Perfume	1.0

The following is a suggested formula for a two bottle black hair dye:

Para-toluylene diamine	5 g.
Para-amino-diphenylamine	5 g.
Sodium sulfite cryst	10 g.
Alcohol (50%)	100 cc.

Bottle No. 1 contains 10 cc. of this solution; bottle No. 2 contains 3 pastilles of 0.5 gram urea peroxide. Contact time 1 hour.

You must realize that the manufacture and use of all aniline dye hair coloring preparations carries a certain element of danger with regard to possible irritation and dermatitis. All such preparations must be approved and fully and correctly labeled before they can be marketed.

PENICILLIN PROPERTIES: I have a material which I believe has properties similar to those of Penicillin. In order to make sure I will be obliged if you would supply me with the following information regarding Penicillin: 1. Relative pH; 2. Solubility at N° C. in water, alcohol, etc.; 3. Melting point, boiling point, decomposition point in degrees C.; 4. Optical rotation; Refractive index; 5. Weight value of Oxford or other unit values used. Tulsa.

The pure crystalline salt of Penicillin is obtainable in the form of white lustrous needles, decomposing at 215-220° C.

A 1% solution in water shows a specific optical rotation of +300°. The salt has a pH of approximately 7, and it is soluble in less than one-half of its weight of water at 5° C. The Oxford Unit is that weight of Penicillin which dissolved in 50 cc. of nutrient broth will just inhibit the growth of the test strain of staphylococcus aureus. Each gram of the Sodium Salt of Penicillin has an activity of approximately 1,500,000 Oxford Units.

External Uses of Cod Liver Oil

(Continued from page 43)

Quite recently Callahan[27] has advocated that burns be treated by paper-tissue-cod liver oil ointment dressing. After cleansing with soap and water and debriding, the burn is covered by cod liver oil ointment direct and this is covered by single layer paper tissue. The wound is redressed daily, then less frequently as required. The patient is comfortable with such treatment and kept in daily motion, the burn will heal in a minimum time and with a minimum of pain and scar without contracture. More recently, as an army medical officer, Callahan[28] has advocated this procedure, slightly modified, as an effective means for treating battle-burned casualties.

The opinion which opposes the use of oily or greasy materials on burns does not seem to apply to cod liver oil. According to Clayton,[29] cod liver oil differs from other fats and oils in that the formation of a coagulum results from its application to the burned. Unlike tannic acid, which forms a tough, leathery eschar, cod liver oil forms a pliable elastic membrane by interfacial precipitation.

In a German military medical journal, Gey[30] reported a comparison between the cod liver oil and the tannin treatment of burns. He stated that cod liver oil proved satisfactory in every respect; it could be applied to all wounds and its application was considerably less complicated than the tannin treatment—a decided advantage where large numbers of patients must be treated. Hardin[7] finds that delayed deaths from sepsis are definitely reduced by substituting the cod liver oil method for local coagulant therapy, especially in extensive third degree burns.

It has been known for some time that cod liver oil dressings are especially useful in treating burns of the face, hands and flexures, where, it is now fully recognized, tough eschar formation must be avoided. Back in 1936, Stevenson[31] reported good results with cod liver oil in the treatment of burns of the cornea, eyes and lids. Indeed, war medicine has extended this use, and cod liver oil is finding increasing use in the treatment of burns of the hands and face which so frequently occur during the present war.[32, 33]

However, there are some who do not rate cod liver oil as highly as do other workers. McClure and Lam,[34] for instance, have found that burns treated with the oil had an average healing time of 3.1 days as compared

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with petrolatum-treated burns with an average time of 2 days.

Of course, cod liver oil has been advantageously combined with sulfonamides for the treatment of wounds and burns. Indeed, cod liver oil is said to be a satisfactory vehicle for incorporating sulfathiazole.[35] In England, a burn preparation called "Englamide" has been reported as being very effective and particularly useful about the face and neck. It consists of 5 Gm. of soluble albucid (sulfacetimide) powder mixed with 100 cc. of glycerine. After heating and dissolving the sulfa compound, 10 cc. of cod liver oil is added and this is then mixed with 80 Gm. of fine kaolin until a thin paste is produced.[36]

More recently, Wolferman and Adams,[37] who had been using an ointment consisting of 60 per cent cod liver oil and 40 per cent white wax, decided to incorporate 6 per cent of sulfonamides in this composition. They found that such inclusion resulted in quicker healing, decreased discharge and a shortening of disability. For routine work, a sulfathiazole-cod liver oil ointment was used, but where streptococcus contamination was suspected, a sulfanilamide-cod liver oil ointment was employed. By a slight modification, a method was developed for impregnating gauze with sulfathiazole-cod liver oil ointment and this was subsequently effectively used in the Orr treatment of osteomyelitis.

To overcome the disadvantages of the tannic acid method, Thiessen and Steinreich,[38] both of the Army Medical Corps, started to use cod liver oil ointments for the treatment of burns. Feeling that further improvement in results could be obtained, powdered sulfathiazole was added. The ointment finally developed and called "10 and 10 ointment" is composed of 10 per cent cod liver oil and 10 per cent sulfathiazole in equal parts of lanolin and petrolatum. Because of accelerated healing and control of infection, it was found that this ointment markedly reduced the length of hospitalization. These workers suggest the substitution of the new composition for the tannic acid ointments now used by the Army in the field medical units.

Hawking,[39] however, as a result of his experiments with sulfonamide in oil for the treatment of wounds, objects to the use of cod liver oil for this purpose. Contrary to the findings of other investigators, he reports that in experimental wounds, the presence of cod liver oil caused undesirable tissue reactions.

As has already been indicated, cod liver oil has been extensively employed in the treatment of many types of wounds.[1, 2, 5, 6] Aldrich,[9] for one, has employed a cod liver oil ointment with good results in such varied conditions as severe industrial abrasions, donor and recipient skin grafting and in post-operative anal and perianal dressings in cases where secondary infection has occurred. From India come reports of the successful use of cod liver oil in the treatment of a severely

lacerated wound,[40] as well as in the therapy of carbuncles and ulcers.[41] The oil and its preparations have also proved beneficial in the treatment of osteomyelitis and severe crushing injuries.[6,7] In Italy, Agostinelli,[42] who advises against primary suture of the wound in cases of compound fracture, obtained good results from the application of cod liver oil. The oil is applied through a window in the cast by means of saturated gauze compresses, the dressings being applied every other day.

Hardin,[7] who has used cod liver oil preparations in a wide variety of injuries and wounds, some of a very severe nature, injects a note of caution. He stresses that cod liver oil therapy should be used with judgment in badly contaminated wounds and that it is not indicated for application immediately to acute inflammatory lesions where the usual surgical measures are indicated. After preliminary treatment the cod liver oil therapy is applied and is usually effective in cleaning up infected wounds or abscess cavities.

Ulcers, including varicose ulcers, decubities ulcers, chronic leg ulcers, and extensive ulcerations from deep third degree burns or other causes, have responded very favorably to cod liver oil therapy.[2,5,6,9] Brandaleone[43] found that cod liver oil promotes healing of the ulcers of the feet in patients with diabetes—cases which are notoriously difficult to treat. The first cure of chronic burrowing ulcer with cod liver oil is claimed by Hardin.[7]

Cod liver oil sprays were employed by Banyai[44] in the local treatment of patients with lavangeal and pharangeal tuberculoses and he obtained prompt relief in patients who responded to this form of treatment. Several of the ulcer patients who had used various anesthetic preparations to obtain relief, were able to dispense with their use shortly after the cod liver oil treatments began. Often noted was the disappearance of dryness, tickling and burning sensations in the throat. This beneficial action, coupled with relief of pain afforded by the treatment, resulted in an improvement in appetite and the general feeling of well-being. Tuberculous lesions responded favorably in many cases; the ulcers showing rapid epithelization and healing. Of 91 cases selected for study, 24 patients remained unimproved, but 42 showed both subjective and objective improvements, while in the remaining 25 instances the lesions healed.

Although ointments containing vitamins A and D have been used in the treatment of dermatological conditions,[3] cod liver oil as such does not appear to have had wide application in this field, except perhaps in the treatment of boils and carbuncles. However, Aldrich[9] has found that cod liver oil is highly efficient in the treatment of pruritus ani and pruritus vaginae. Strong antiseptics may not be used in such cases since they cause burning and heighten the irritation. Applying cod liver oil, he reports, reduces irritation almost at once by filling in the irritated folds and covering the

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nerve endings, thus reducing the desire to scratch and thereby preventing further trauma. The oil destroys a certain percentage of the responsible organisms and the factor of epithelial stimulation hastens the healing process. More recently, to facilitate the application of the medication in cases of pruritus ani, Aldrich[45] has employed an ointment-filled capsule tapered at one end to permit insertion into the anus. Prior to use an incision is made in the side of the gelatin container to permit expulsion of the cod liver oil preparation.

Although cod liver oil in its original liquid form has been used in many instances, others have preferred to incorporate the oil in an ointment or salve base to secure better adhesion and to localize the action. Very often the oil is merely incorporated in petrolatum, but with the trend toward more elegance and in efforts to eliminate or cover the odor, other bases such as white wax, oxycholestrin bases and emulsions have been employed as vehicles.[7] Methods for making cod liver oil ointments have appeared in the literature, but are not too plentiful. According to one procedure 100 Gm. of beeswax are melted on a water-bath and mixed with 500 Gm. of melted petrolatum. This mixture is allowed to cool to 45° C., and 400 Gm. of cod liver oil, previously warmed to 35°, is added with careful stirring so as not to include air in the mixture. Control of temperature is important to prevent loss of vitamin potency.[46]

Ferraris[47] has suggested a series of cod liver oil preparations to meet various conditions. In all of his procedures the waxes and other ingredients are melted first and the cod liver oil gradually added to a temperature of 30 to 35° C., avoiding the formation of air bubbles. The following formulas are typical. Thus, to make a preparation to which alcoholic solutions may be added, the following is suggested:

White beeswax	10 Gm.
Spermaceti	10 Gm.
Cod liver oil	80 Gm.

Where aqueous medicaments are to be added, the composition given below may be employed:

Beeswax	20 Gm.
Stearic acid	20 Gm.
Petrolatum	30 Gm.
Hydrous wool fat	30 Gm.
Cod liver oil	100 Gm.

An ointment suitable for wounds and sores consists of:

Yellow beeswax	20 Gm.
Petrolatum	50 Gm.
Cod liver oil	40 Gm.

Another composition, to which talc or zinc oxide may be added to increase the action, is prepared as follows:

Yellow beeswax	10 Gm.
Triethanolamine stearate	10 Gm.
Hydrous wool fat	25 Gm.
Cod liver oil	75 Gm.

All of the above may be applied directly to the skin or used on gauze. If suppositories are desired, Ferraris supplies two formulas. If an oily medicament is to be incorporated, the following will serve:

Beeswax	1.5 Gm.
Oil of theobroma	4.5 Gm.
Cod liver oil	4.0 Gm.

In case aqueous medicinal agents are to be incorporated, the following is suggested:

Beeswax	3 Gm.
Triethanolamine stearate	4 Gm.
Cod liver oil	20 Gm.

Bases consiting of mixtures of petrolatum and lanolin have also been advocated.[48, 49]

Cod liver oil has been suggested for use in making cosmetics and several attempts at it have been tried. Recently, however, one series of cosmetics based on cod liver oil has been marketed and according to reports[50, 51] has overcome the chief objection to the use of the oil; namely its unpleasant odor. Although vitamin-containing cosmetics have been proposed from time to time,[3] the subject is too controversial to be discussed here.

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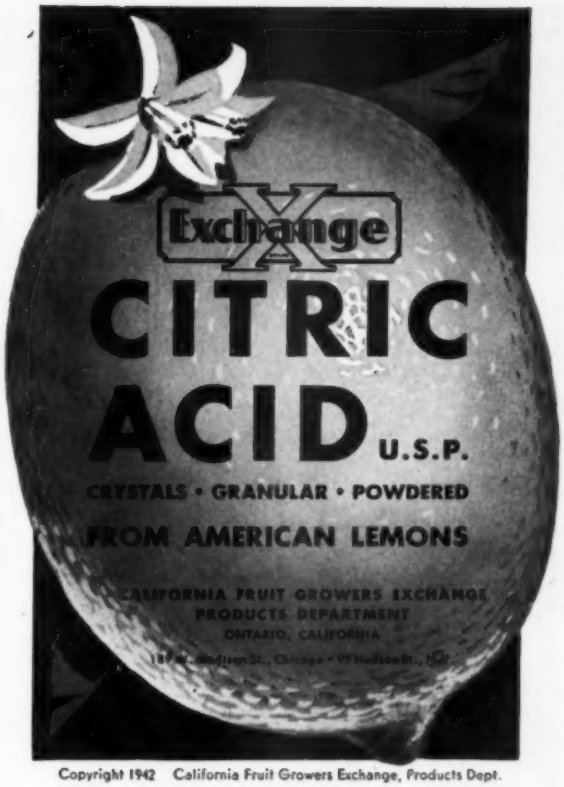

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Production Forum

(Continued from page 83)

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As you know, placing temperature and humidity controls on a dryer simply means that certain conditions can be secured and controlled within the dryer in relation to the humidity of the intake air. If, therefore, you have a product which requires an extremely close degree of control, then you should standardize the intake air by using a Lectrodryer. Of course, if your dryers happen to be located in an area which is entirely dehumidified, then no problem will be encountered.

While I am on the subject of dehumidification, I should like to make a comment on the relative efficiency of activated alumina and silica gel. Activated alumina is more efficient as an adsorber. Besides it is insoluble, which gives it a particular advantage in installations where slugs of water are likely to come through. In short, activated alumina, being insoluble, will never break down in service.

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This new product was shown to me by my friend, Don Tilson, Vice-President of the Aluminum Ore Company, at the recent Chemical Show. This snow-white material has the peculiar property of being a gel when motionless and a liquid when agitated. Directly agitation ceases, it resumes its gel form. This suggests a possibility for cosmetic use as a liquid face powder and in pharmaceuticals as an adsorbing agent and stabilizer for suspensions. I asked Don what thixothropic meant. Promptly and honestly he replied, "I'll be damned if I know." Don formerly was vice-president of the Aluminum Seal Company and was responsible in very large degree for the Aluminum Company's closure business. Don and I are friends of long standing. Fifteen years ago when I was Plant Manager of the Marinello Company, Don was a cap salesman. He used to do his damnedest to induce me to buy aluminum caps, which at that time weren't so hot from an appearance standpoint, because they became smudgy so readily. That was in the days before brightly colored lacquers and brilliant finishes. At that time I had decided to resign and go into the consulting business at some future date; Don thought it was a good idea and decided to throw in his lot with mine. In the combine also was

another old friend, Frank Shannon, a top-flight mechanical engineer. The outfit was to be known as Industrial Advisory Associates and the combination would supply experience and skill in chemical, industrial, and mechanical engineering. The idea was still-born. Before anything could be done about it, I got sick and was out of the running for a long time, Don got promoted to larger responsibilities and a fat raise, and the same thing happened to Shannon. Tilson and Shannon are now both big guns in their respective companies while I'm peddling peanuts at the old stand

CONTAINER SHORTAGE

Our cosmetic friends are certainly getting a hell of a walloping on container shortages. Paper containers of every kind are deplorably short everywhere. I don't know how some of my cosmetic clients are going to maintain their volume. It might be a smart thing to redesign face powder boxes so that they can be used for refills. In normal times women will not be bothered with refills but now I am sure they'd rather buy a refill than get no powder at all. If the shortage keeps up, you fellows may have to sell your face powder to department and drug stores in little kegs so that the dispenser can refill the powder boxes out of barrels. It has been our habit to ridicule the old cracker barrel days before the era of packaging but if this war lasts much longer, you may wish to God the cracker barrel days were back again. "Roll out the Barrel" may still become the national anthem.

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Great Western Manufacturing Company, Leavenworth, Kansas, calls your attention to a new bulletin describing a variety of types of vibrating screens and sifters. These sifters have been widely used in the cosmetic and pharmaceutical industry.

Eclipse Air Brush Company, 390 Park Avenue, Newark 7, New Jersey. A well-illustrated catalog showing applications of air motored mixers for mixing everything from light fluids to relatively heavy pastes.

FLU DRUG SHORTAGE

Wholesale druggists are feeling that should the influenza epidemic flare up in other areas, the situation would be dangerously acute as a result of drug shortages, notably in preparations requiring alcohol and sugar, as well as a result of the manpower shortage, according to Dr. E. L. Newcomb, executive vice-president of the National Wholesale Druggists Association, who made a telegraphic survey of the wholesale houses at the close of the year. Dr. Newcomb stated that the wholesale druggists are "doing an effective job in serving the health needs of the people, notwithstanding the fact that the government bureaus have thus far failed to meet promptly and fully the emergency situation that has arisen."

"The government particularly has failed to consider the importance of distributing essential drug merchandise," he said, continuing, "So far it has been impossible to ration sickness. That being the case, it is not sound policy to ration either the preparations or the services required to help the sick."

Wholesale druggists agree that demands for drugs, pharmaceuticals, and other health supplies which reached a record high during 1943, will continue heavy during the first part of 1944 at least.

Specific medicines and drugs cited as short by a majority of twenty leading wholesale druggists canvassed included cough syrups, cough drops, aspirin, elixir terpin hydrate, throat gargles, rubbing alcohol, papaverine hydrochloride, and products containing menthol and eucalyptus.

Deliveries from manufacturers of products used in control of influenza and other respiratory diseases, especially those requiring alcohol and sugar, are becoming "slow and erratic," with orders accumulating that cannot be presently filled due to material shortages.

The twenty-five per cent increase in alcohol has not relieved the situation since demands for drugs during 1943 were so much greater than during the two preceding years that 100 per cent of a previous year does not fill the requirements.

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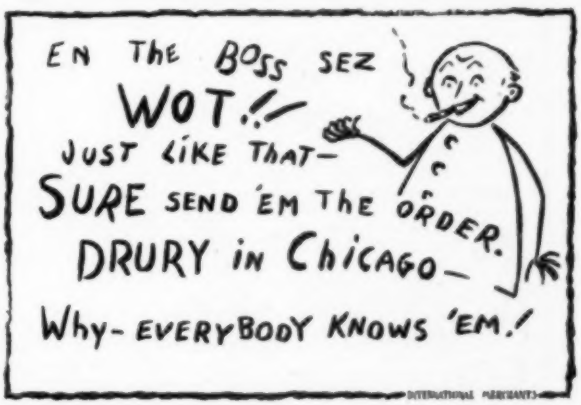

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FOR SALE: 2—Pfaudler 500 gal. stainless steel Lined Agitated, Jack. Kettles; Pfaudler 350 gal. Glass Lined Tank; 6—New Ball & Jewell Rotary Cutters, Size 0; 1—B.&J. No. 1½ Rotary Cutter; Copper Jack. Kettles 15 to 150 gal.; 2—Homogenizers, 5 and 10 HP motors; W.&P. Jack. Mixer 150 gals.; Double Spiral Jack. Mixer 150 gal.; Paste, Powder & Liquid Mixers; Filling Machinery; Kettles and Tanks; Grinders, Crushers & Pulverizers; Sifters & Screens; Pebble & Jar Mills; Stills & Columns; Filters & Filter Presses; Dryers; Centrifuges; Pumps. Send us your inquiries. We buy your surplus equipment. Stein Equipment Company, 426 Broome St., New York 13, N. Y.

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18—New Wood (Cypress) closed Pressure Storage Tanks, Round & Tapered, 19,220 to 22,630 gals. Cap.
2—C. Ross Paste Mixers, 34″ x 20″, 70 Gal. Cap.
4—Receiving Tanks, Cast Iron, Closed, 3′6″ dia. x 4′6″ high
6—New 60 Gal. Stainless Steel Tanks, With Stands & Covers
9—J. H. Day Paste and Dough Mixers, 15 to 70 Gal. Cap.
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15—Steel Tanks, Welded & Sectional, 1550 Gal. to 11,470 Gal.
1—Stokes 2C Tube Filler
Also Stills, Condensers, Centrifugal Pumps, Fillers, Filters. Write For Latest Stock List. PERRY EQUIPMENT & SUPPLY CO., 1515 W. Thompson St., Philadelphia 21, Pa.

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WANT TO BUY small non-free flowing powder packing equipment. 8 oz. and 1 lb. size packages. Write CEREAL LACTIC CO., Woodward, Iowa.

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WANTED: Man experienced in filling and handling of ampuls under aseptic conditions and capable of assuming charge of large-scale operation. Excellent opportunity for right man. Location New York City. In replying give all pertinent data and enclose recent photograph. Box 497, DRUG & COSMETIC INDUSTRY.

CHEMIST—To take charge of manufacturing laboratory in small mid-western city. Must be capable of developing new products in cosmetic and drug field. Nationally known firm. Write Box 505, DRUG & COSMETIC INDUSTRY.

ESSENTIAL Oil and Flavor chemist and compounder for permanent position with large manufacturer. Reply Box 506, DRUG & COSMETIC INDUSTRY.

GRADUATE CHEMIST or CHEMICAL ENGINEER, experienced in perfume and cosmetic manufacture to supervise production, research and testing laboratory. Excellent opportunity for right man. State age, training, experience, draft status, salary desired in first letter. Replies held in strict confidence. Write Box 507, DRUG & COSMETIC INDUSTRY.

WEST Coast Pharmaceutical Laboratory wants man with complete knowledge of intravenous solution production and control, capable of installing department and supervision thereafter. Write Box 508, DRUG & COSMETIC INDUSTRY.

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PART TIME—Experienced person to develop Dentifrice formula. Choose your own time and location. Box 510, DRUG & COSMETIC INDUSTRY.

Situations Wanted

CHEMIST EXECUTIVE: Graduate Chemist, 38, draft status 3 A-H with 17 years industrial engineering experience. Capable assuming all responsibility on inside of manufacturing organization including purchasing, equipment, and layout, costs, production, personnel, etc. A key man for a manufacturer whose sales volume is in excess of $500,000. Box 475, DRUG & COSMETIC INDUSTRY.

CHEMIST-PERFUMER, 48, now in charge of perfume compounding department in well-known firm desires a change of position. Speaks French. Box 499, DRUG & COSMETIC INDUSTRY.

PERFUMER-CHEMIST, 13 years experience in this trade, associated with 3 leading Essential Oil companies, desires position as perfumer or chemist with Perfume, Cosmetics Manufacturer, or Essential Oil house. Speaks Spanish fluently and has lived in Spain. Box 511, DRUG & COSMETIC INDUSTRY.

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WANTED—Cosmetic bottles 2-4-6 oz. Send samples, quantity and price. LINNEA, INC., 160 N. Wells St., Chicago, Ill.

WANTED—Toilet Preparations and Cosmetic plant having equipment and allocations to do a volume of $50,000.00 or more per year. Box 512, DRUG & COSMETIC INDUSTRY.

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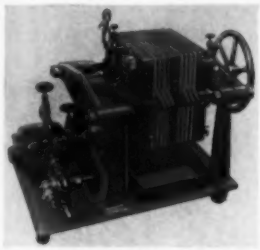

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